

Ecology and Equity. The Use and Abuse of Nature in Contemporary India. M. Gadgil and R. Guha. Penguin India, 56, Nehru Place, New Delhi 110 019. Price: Rs 135. 213 pp.

At a time when environmental concerns are viewed with distrust and contempt by the policy makers, Madhav Gadgil and Ramachandra Guha's book *Ecology and Equity* comes to us like a whiff of fresh air. There is a lack of proper social scientific analysis on environmental problems in India – more so of any plausible solutions. The authors fill this vacuum by building up an analysis on empirical evidence and when they offer solutions the reader cannot but agree with them.

In this book we come face to face with the real India – the miseries faced by the ecological refugees and the impenetrable iron triangle of beneficiaries, administrators and decision makers.

The real beneficiaries of economic development are only one sixth of the population who are the omnivores. They are rich and powerful. On the other hand, the ecosystem people or the 'biosphere-people' are dependent on nature and hence very close to it. The ecological refugees are large in number and are those people who have been overlooked during the process of large-scale 'development projects'. The authors point out that while there could be no environmental movement which is totally opposed to economic development, for, that would isolate our country on the world map, the appropriate solution would be to integrate and blend conflicting objectives of economic growth and environment protection at every step.

In the first part of the book the authors delve into the past and trace environmental degradation to the colonial days when the British wanted to retain India as a colony purely for economic reasons, namely for its raw materials. As a consequence of breakdown of traditional land and water management practices, there has been a progressive degradation of our coasts, inland water, forests, grazing lands and farmlands. This section is very informative but at times makes repetitive reading. And for scholars familiar with the history of preindependent India, there is nothing new.

The most interesting theme is, however, the classification of the Indian population by the use of resources as governed by the iron-triangle of beneficiaries, administrators and decision makers. State subsidies have given rise to this state of affairs and the omnivores of the iron-triangle are adopting a method of exhaustive resource use at the expense of the ecological refugees and ecosystem people.

That the state machinery has failed abysmally in its performance is evident to everyone, but Gadgil and Guha do not stop there. This seemingly unassuming book is as full of data and information as it is of rhetoric. The second part of the book deals with the 'India that might be' where the authors start with the three main prevalent streams of ideologies namely Gandhism, the Marxist's utopia and the capitalist dream. Gadgil and Guha argue that neither Gandhism nor Marxist philosophy nor capitalism alone can cure the ills of our society. The blend of all the three has been called conservative–democratic–socialism. The emphasis on strong local community from the Gandhian tradition, the democratic institution and private enterprise from liberal capitalism and equity from Marxism have synthesized this conservative–liberal–socialism which is the answer to push India towards better growth and development. With effective decentralization and empowerment of the local people, this could be a solution.

In a country full of contrasts as the authors quote Vikram Seth:

...
And why is it that Minister's Hill
And Babu's Barrow drink their fill
Through every season, dry or wet,
When all the common people get
Is water on alternate days?

This book makes a realistic and frank assessment. A truly well written book – a must for every planner and the environment conscious.

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Electrochemistry: The spreading reach of biology

Bioelectrochemistry of Biomacromolecules. G. Lenaz and G. Milazzo, eds. Birkhauser Verlag AG, PO Box 133, CH-4010, Basel, Switzerland. Price: SFR 198.

Biology has intruded into many areas of physics and chemistry and a whole host of subdisciplines now carry the prefix 'bio'. This ubiquitous prefix is found twice in the title of this book which is devoted to the 'bioelectrochemistry' of 'biomacromolecules'. This is the fifth volume in a series entitled 'Bioelectrochemistry: Principles and Practice'. Originally conceived as a comprehensive treatise on bioelectrochemistry by Giulio Milazzo, these volumes have undergone a transformation to a series of multiauthor volumes after his untimely death in 1993.

Electrochemistry has its origins in biology with the work of Galvani and Volta as the forerunner of much of modern day electrochemical research. This volume begins with two comprehensive chapters on the structures of nucleic acids and proteins which form almost half the book (182 pages). Here electrochemistry remains very much in the background. The chapter by Brabec, Kleinwächter and Vetterl on nucleic acids is notable for its comprehensive treatment of the electrical properties of these polyanions. The discussion on the behaviour of DNA in electric fields and the dielectric properties of DNA may be useful to readers who normally have recourse only to conventional biochemistry texts, which place overwhelming emphasis on molecular structure and biochemical properties.

The article by Dan Urry on proteins is largely based on the author's own, seminal work on polypeptides, related to the fibrous protein elastin. This chapter makes fascinating reading and much of what is said here may in fact be unfamiliar to those conditioned to discussions of folding based on crystal structures of globular proteins. Although, early structural concepts in this field developed from studies of insoluble, fibrous proteins like collagen, keratin and elastin (and of course synthetic polypeptides), the later flood of information on globular structures has submerged most early work. I found the