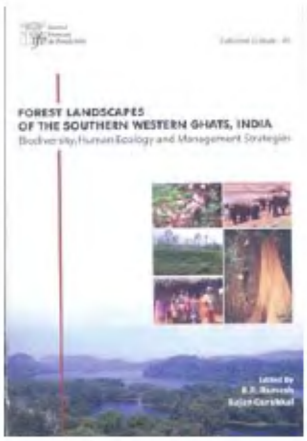
Overall, it is good knowledge-based volume. Complete reference to all the chapters in this book is available at http://www.life.uiuc.edu/govindjee/References/Volume%2018%20By%20Chapter.htm

We recommend this book to graduate students and established scientists working in plant biology, biochemistry, molecular biology and environmental biology. Due to its high price tag (US$ 179), especially for developing countries, we recommend that major science libraries and research institutions acquire it for the use of their students and teachers. We also recommend this book to members of the International Society of Photosynthesis Research (http:/www.photosynthesisresearch.org/), since they get 25% discount.

SIDDHARTHA DUTTA
BAISHNAB C. TRIPATHY*

School of Life Sciences,
Jawaharlal University,
New Delhi 110 067, India
**e-mail: bctripathy@mail.jnu.ac.in*



Forest Landscapes of the Southern Western Ghats, India: Biodiversity, Human Ecology and Management Strategies. B. R. Ramesh and Rajan Gurukkal (eds). French Institute of Pondichery, 11 St. Louis Street, P.B. 33, Puducherry 605 001. 2007. 304 pp. Price: Rs 550.

This book represents an interdisciplinary study by a team of ten ecologists and social scientists belonging to the French Institute, Puducherry and the School of Social Sciences at M.G. University, Kottayam. It is an unusual and a valuable book, a serious technical case study of forest and wildlife management focused on a specific locality, namely the western Anamalais. Normally, such studies are only produced in the form of grey literature, as official documents that are not widely available to the public and never subjected to scrutiny as in case of scientific literature. As a result they often contain serious errors of fact as well as interpretation. Indeed, it is notable that this book does not refer to any such official documents at all. Its fairly long list of references does not include a single working plan, management plan or publication from the forestry research establishment of India. In fact, it refers to just one paper published in *Indian Forester*. Even this paper seems to be a product of an independent research study, and not an output of the forest and wildlife management establishment.

The focus of this book is on a new paradigm, that of landscape-level management and self-regulatory forest community development. Its important strengths include adoption of the broader landscape approach, a human ecological approach, and an assessment of the participatory paradigm. This new paradigm has, in theory, been accepted by the forest and wildlife management establishment. But this has been the result of societal pressures and the establishment has neither internalized nor operationalized it. This is why an independent group like this one from the French Institute and M.G. University had to step in; it has performed a most valuable service in bringing out this careful piece of work.

The French Institute has made seminal contributions to the mapping of India's vegetation. In this, it has complemented Champion's work on forest types of India, by recognizing the impact of various levels and kinds of disturbances. The French Institute has also been producing over the last 40 years maps of Indian vegetation on a 1 : 1 million scale, followed by more detailed maps of the vegetation of the Western Ghats on a 1 : 250 thousand scale. The senior editor of this book (B. R. Ramesh) has himself made an important contribution in this field. It is a field that has now been greatly enriched by the availability of ever more detailed remote-sensing imagery. The book under review takes full advantage of this background. It begins with a broad look at the landscapes of Kerala, placing the study sites in west Anamalais in the broader context. It goes on to document in detail the physical, bioclimatic, vegetational, floristic, faunistic and human ecological features of selected landscapes based on extensive field work. This provides us, for instance, with an excellent analysis of the distribution of forest types in relation to bioclimate, topography and human activities, floristic composition of the various forest types, and factors governing the occurrence of major vertebrate species such as elephant or lion-tailed macaque.

This contribution by the ecologists from the French Institute is followed by an assessment of the spatiality of subsistence and human ecology of the landscape by social scientists of M.G. University. They too have undertaken extensive field work in human settlements in the selected landscapes, involving an appraisal of livelihood options, means of subsistence and availability of facilities. On this basis they distinguish the tribal as well as other settler settlements into different types of functional groups. This is followed by a detailed study of the availability and management of non-wood forest produce. In this carefully worked out context, they look at the various resource-management institutions. The realistic, though gloomy, conclusion that follows is that the management plan of forests cannot, under the current system, be oriented to equity and ecological sustainability. Furthermore, the poor and exploited in the forests and fringes are incapable of fighting against their conditions of oppression due to a lack of social capital.

I agree, but believe that the reason that the book fails to shed more light on these issues is because of its failure to subject the management system and practices to careful scrutiny. It seems to accept at face value, the claims of forestry to be a scientific practice. For instance, in describing the history of forest management the book states that 'the emergence of working plans as the effective tools of planning and management in the forestry sector have been a major breakthrough'. I would like to submit that this assertion does not stand scrutiny. The modern scientific method has been termed as the 'hypothetico-deductive' method. Hence, a truly scientific enterprise would treat documents such as 'working plans' as scientific documents to be made available for peer review by all interested parties, not as official secrets. The yields expected to be realized, and the stocks expected to be left behind after the harvests would be treated as hypotheses to

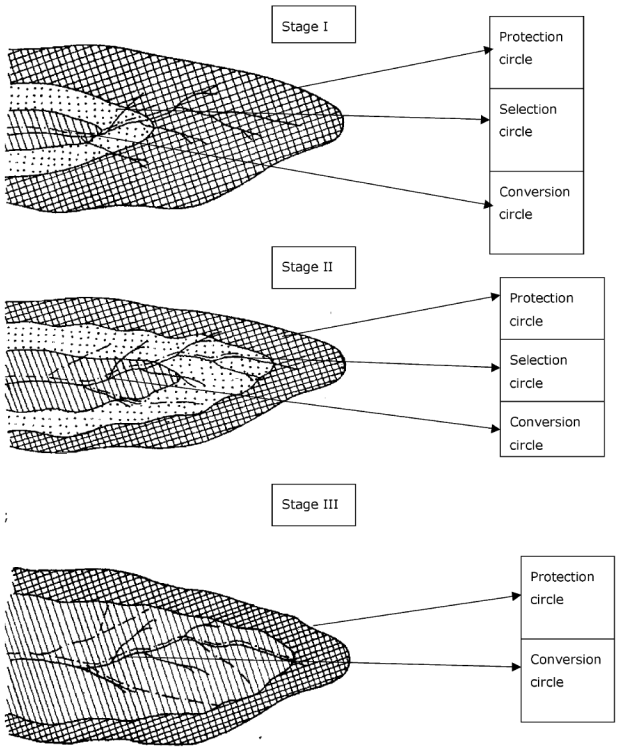


Figure 1. Successive changes in designation of areas under protection, selection and conversion circles in the Quilon Forest Division of Kerala over the period 1950–80 (after FAO[1]).

be tested. If the yields do not materialize, or the stocks are not sustained, then a scientific enterprise would acknowledge that there are obvious errors of fact or logic, and attempt to look for and correct them. It would also try to bring on-board all interested parties, technical experts, as well as other stakeholders from the civil society, in the effort to understand the mistakes and correct them.

The forestry establishment claims to be managing resources in a sustainable fashion. But it has never, on its own, carefully assessed the validity of this claim. One of the few attempts to do so is an FAO-sponsored study in Quilon division of Kerala[1]. Notably enough this study is never referred to in any official literature, nor does it figure in the book under review. This study showed that the working plans have been converting the steep hill slopes earlier set aside as parts of a protection circles, first into selection felling circles, and then, as forest resources are exhausted because of a failure to sustain use, into conversion circles earmarked for clearfelling (Figure 1).

In another study, Prasad and Gadgil[2] have illustrated the process of non-sustainable use of pulpwood resources by paper mills of Karnataka along several dimensions. The contractors supplying bamboo rarely adhered to prescriptions. Instead of removing a fraction of culms from all clumps throughout a block, they removed all culms from the clumps most accessible from the road. The next year a fresh road would be made further inside the block and all roadside clumps clear-felled, and so on, in a sequence reaching into less and less accessible terrain. Secondly, as forest areas near the mill were depleted, supplies were drawn from further and further away. Thus WCPM in Karnataka first went to neighbouring Andhra and then further afield to Garhwal, Assam, and finally Nagaland. Thirdly, as the supplies of bamboo, the most suitable species for paper-making, dwindled, other harder and harder woods were tapped. Fourthly, the mills moved from reserve forest land, from which they acquired supplies subsidized by the state to the tune of 1.50 rupees per tonne of bamboo (when the market price was Rs 5000 per tonne), to the use of bagasse from sugarcane, or to eucalyptus grown on farm lands.

The book fittingly focuses on human ecology, and is based on extensive field work amongst local communities. But this interaction is limited to discussions of livelihood strategies and options, and leaves aside all management issues. The entire discussion of perceptions of threats to forest and wildlife resources remains restricted to inputs from the Forest Department staff. This naturally fails to bring out one significant factor, namely the widely prevalent corrupt practices. Genuine empowerment of the local communities will considerably reduce the scope for such corrupt practices. The book continually talks of the lack of attitudinal change on part of foresters as the major reason of why the new paradigm of self-regulatory forest community development is failing to take root. But by failing to talk to community members about management issues, the investigators have surely missed many important insights. They have thereby failed to get at the root causes of issues like why the attitudes they lament are so recalcitrant.

In talking about the historical sequence of changes in forestry practices, the book also misses out a significant factor. This is the beginning of large-scale import of timber, softwood and woodpulp beginning in the 1980s. In fact, the Forest Conservation Act was enacted and commercial use of Indian forests scaled down only following exhaustion of supplies from Indian forests and opening up of possibilities of these large-scale imports as a part of the process of globalization. But the exhaustion of supplies from Indian forests also set in motion other forces that have prompted a shift towards participatory forest management. The failures of this participatory forest management have in turn prompted the most recent shift, that embodied in the Tribal Forests Rights Act. In spite of these limitations, this book clearly represents a pioneering and a most instructive piece of work.

1. Food and Agriculture Organization, FAO Forestry Paper 53, FAO, Rome, 1984.
2. Prasad, S. N. and Gadgil, M., Final report to Karnataka State Council for Science and Technology, Bangalore, 1981.

MADHAV GADGIL

Agharkar Research Institute,
Agarkar Road,
Pune 411 004, India
e-mail: madhav.gadgil@gmail.com