

BOOK REVIEW

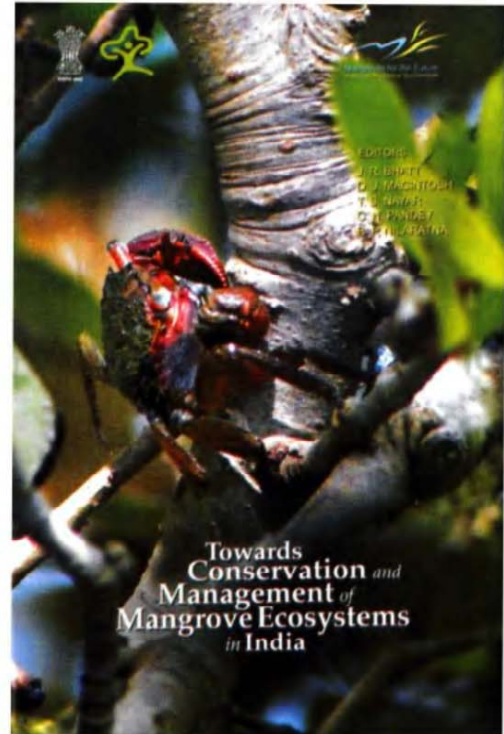
Towards Conservation and Management of Mangrove Ecosystems in India. Ed. by J.R. Bhatt, D.J. Macintosh, T.S. Nayar, C.N. Pandey, and B.P. Nilratna. IUCN India. 2011. xii+ 280pp+156 colour photographs. ISBN: 978-2-8317-1263-5. Price not mentioned.

The mangrove ecosystems gifted with inimitable diversity harbour many species confining to unique niches/habitats and executing explicit jobs. Their conservation and well being is extremely crucial as they cover limited extant considered as harsh by generalists and in the event of their elimination/extinction there shall be no alternate performers to manage these eco-functions. The perception and policy of both governmental and nongovernmental agencies is to protect in all earnest their integrity and diversity. It was in this context that a workshop on "Conservation and Management of Mangrove Ecosystems in India-Stakeholder Consultation for Assessment of Training and Capacity Building Needs and Design of National Strategy and Action Plan" was organized in Gujarat in 2008. The book which is under review titled "Towards Conservation and Management of Mangroves in India" published by IUCN, comprises a compilation of editorial version of the papers presented at this workshop. It consists of 22 articles and touches upon mangrove diversity, conservation, management and prevailing policies.

The first article, all encompassing, titled "Biodiversity of Mangrove Ecosystems of India" provides a glimpse of statistics of mangrove status, coverage and number of species including summarized reviews in different states. Phenology, reproduction, pollinators, wood anatomy (vessel vulnerability and mesomorphy), and the faunal reviews pertaining to insects, birds and mammals are also dealt with. Habitat loss/ fragmentation, reduction in fresh or tidal water flows, poor natural regeneration/ ecosystem health and over exploitation are analyzed in national perspective. The second article deals with state wise diversity that exists in mangroves in the country with review of work undertaken in each state. An exhaustive list of references is given at the end of the article. Though this article partly covers the first one, its focused presentation with updated nomenclature makes it additionally informative. The third in the order pertains to chosen faunal wealth- shrimps, prawns, hermit crabs and insects in Andaman and Nicobar Islands. As assumed, that these islands once duly documented might bring in many prospectively exploitable species under these groups. Their utilization and values accrued by the communities specially the possibilities of the banana prawn, *Penaeus merguensis*, and the mud crab, *Scylla serrata*, as candidate species for mariculture are aptly presented.

Sunderbans obviously took an exclusive chapter with stress on ecosystem and resource information. The article provides a backdrop of the Sunderbans, a synopsis on biodiversity and its recognition/declaration as a tiger reserve/ biosphere reserve/ world heritage site. The article highlights the capability of remote sensing, field surveys and GIS in monitoring resource information system specially vegetative cover and also exposed muddy areas. Two articles were devoted to Gujarat, one on the status of mangroves in different zones, changes in its cover, mangrove plantations and potential areas for plantation and the other on analysis of the diversity with extant. A list of 284 mangrove associates is provided.

In diversity of existence some are specials while others are not. Species relative importance are vividly explained in ecological concepts such as keystone/flagship/umbrella and nuclear species. Crabs as key stones in overall ecology of mangrove forests are now realized. An article on plant crab interactions was presented with emphasis on their role in litter processing, feeding preferences and both spatial and temporal variations in these traits/functions. These studies have a bearing when restoration and management practices carried out under reclamation programs. It goes with another article on Kerala which deliberates on the status of mangroves in the state. Truly a divergent topic but a very important one was presented from Institute of Wood Science and Technology, Bangalore. The institute's expertise in authentic identification of biodeteriorating agents



(insects, fungi, marine borers and foulers) and *in situ* treatment of trees to protect the timber from them are the focus of this article. The concerns of climate change that results in sea water rise and its impact on marine ecosystems along Indian coast are reviewed in another article with suggested areas for monitoring based on geomorphology, tidal patterns, climate, precipitation and coastal processes.

On mangrove restoration there are two articles from Andhra Pradesh and one from Karnataka. These articles also address issues such as livelihood, plantation in private lands and publicity awareness. Issues like man tiger conflicts and rehabilitation of estuarine crocodiles were presented on conservation and management of Sunderban biosphere reserve.

One of the important legislations that has come in the defense of coastal stretches is the Coastal Regulation Zone Notification (MoEF, 1991). Predictably, three articles, one by Shailesh Nayak introducing integrated coastal zone management in India, the second one on a review of chronology of amendments and the last one on a case study on community centric coastal area ecorestoration project involving many agencies from South Gujarat. The book as envisaged concludes with 22 recommendations with suggested future study on threatened species, their biology and recovery, mangrove pests and bioprospecting for valuable genes and products.

Diverse contributions from reputed experts, a few of them exclusively devoted to important mangrove habitats, their good quality presentations aptly interspersing with germane photographs (a couple of them require change in orientation/caption), careful placing of content for a coherent line up and reading and finally the commitment of the editors to bring in uniformity, often flouted in such publications, make the book truly valued and worthy of ownership. The time lapse in its appearance was taken care of by the editors with relevant updates on different topics. The book design and layout are appealingly done and the book has come out so gorgeous and striking with a Brachyurian crab (*Paresesarma plicatum*) on *Aegiceras corniculatum*, indicative to strong and unique plant-animal interactions in these fragile ecosystems on the front cover. The publication has a good reference value for mangrove researchers and policy makers. The book covers almost all states where this resource exists in considerable measure, except Orissa. The endeavor to bring out a good reference on this precious group in India seems to have been achieved with this publication.

P.VENU & PARAMJIT SINGH
Botanical Survey of India
Kolkata