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BOOK REVIEWS

Ramkumar, M.; Kumaraswamy, K. and Mohanraj, R. (Editors). 2015. Environmental Management of River Basin Ecosystems. Springer International Publishing, Switzerland. xii+761 pages. ISBN: 978-3-319-13425-3 (Hardcover). € 179.99

Rivers have often been treated as channels carrying water which is abstracted and diverted for multitude of human uses. Whereas a river basin approach has been advocated for an integrated management of various environmental problems for several decades, in developing countries like India river basins have started receiving attention only during the past few years. In India, water policy emhasises the need for an integrated water resources management at the river basin scale, and yet, the rivers are not treated as ecosystems. Hence, this large volume on 'river basin ecosystems' attracted my attention. The blurb states that the book "provides a varied reference work on and unprecedented guidelines for conducting and implementing research on river basins, and for managing their ecological development". This enhanced my curiosity about the book.

This edited volume is a collection of 33 articles of which the majority (26 articles) is contributed by Indian researchers. These articles focus mostly on the hydro-geology, geomorphology, water resources (precipitation, runoff and groundwater), and the influence of catchment perturbations by anthropogenic activities on sediment and water quality of Indian peninsular rivers, mainly Cauvery, Godavari and smaller rivers in Western Ghats flowing eastwards or westwards. The introductory chapter by the editors focuses on deltaic ecosystems of Cauvery (= Kaveri). Two contributions discuss the erosional-depositional behaviour of river Brahmaputra and its tributary Dhansiri in northeastern India. Remote sensing and GIS application for geomorphic analysis are discussed in two articles whereas a third one deals with GIS-based modelling of groundwater vulnerability to contamination.

Besides the physical aspects of the river basins, biological components are covered by three articles which refer to the water quality assessment in different rivers using benthic diatoms and one article each devoted to birds and the mosquito vectors in riparian areas. The microbial biodiversity is examined for four major rivers (including Ganga) but there is very little about systematic or functional diversity. An interesting article reviews carbon flux through the rivers with reference to Indian conditions.

Seven contributions by authors outside India describe divergent aspects of rivers namelt, hydrology in relation to climate and climate change (Thailand, Canada, China and Japan) and water quality (Malaysia and Canada). One contribution from Brazil describes the influence of hydrogeological parameters (sediments and water chemistry) on the vegetation distribution in riparian areas using pollen and leaf morphology.

No doubt, each river basin is unique in its hydrogeological, hydrological, biological and ecological characteristics and response to human and climatic perturbations, and therefore requires a thorough understanding for its management. The editors of this volume cast their net far and wide to invite contributions from several countries but in the process lost focus on any one or two river basins which could have been covered in greater detail to bring out clearly the environmental problems and potential strategies for their management at the basin scale in an integrated manner. The editors have neither attempted to organise the articles into themes they cover nor did they try to synthesise or summarise the issues discussed in this volume from a management perspective.

I am unable to comprehend how this volume can 'enlighten administrators, and planners' or what message is communicated to the readers whom the editors expect to 'spread awareness among the common people'. However, the researchers may find some of the articles relevant to their respective fields of interest.

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