

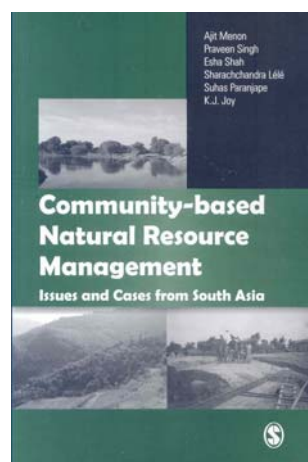
BOOK REVIEWS

of the Narmada have contributed significantly to the understanding of palaeo-environment and palaeoclimate. Some discussion on this aspect in the book would have been useful for the readers, particularly to get a holistic view of palaeoecology that the author has tried in later chapters. The systematics of the mega vertebrates collected from selected sites in the Central Narmada Valley is described in two chapters. It would have been better to combine the two chapters and append taphonomic observations wherever required, rather than duplicating the descriptions in some cases. Also, there is no uniformity in the descriptions. Synonymies are given for some species, but are missing for others. The mega vertebrates recovered in this study are referred to the families Bovidae, Elephantidae, Hippopotamidae and Equidae. A number of microvertebrates belonging to rodents, insectivores, reptiles, pisces and amphibians are also reported. The book integrates the fossil assemblages, their taphonomic attributes, cultural tools and observations of animals in the cave paintings for palaeoecological reconstruction of the Narmada Valley. It is suggested that the valley was a vast savannah land with flood plains, back swamps and water pools inhabited by hoofed mammals and reptiles. The climate was similar to the present-day tropical climate, that enabled the animals to migrate from the north during the glacial period to survive almost up to 15,000 years ago. The concluding chapter is about the life history and palaeoecology surrounding the river Narmada. It would have been better if some of the inferences from microvertebrates and rock paintings, given as appendices, were in the main text to complete the story.

Overall, the book nicely documents the fossil finds with adequate descriptions and illustrations. Printing is of good quality, but the cost should have been low to make it within the reach of the general readers. Narmada, with its vast heritage will continue to attract researchers with wide-ranging interest in palaeontology, anthropology and archaeology. The book with its holistic approach will be useful to all.

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Community-based Natural Resource Management: Issues and Cases from South Asia. A. Menon *et al.* Sage Publications India Pvt Ltd, B1/11, Mohan Co-operative Industrial Area, Mathura Road, New Delhi 110 044. 2007. 362 pp. Price: Rs 450.

Community-based natural resource management (CBNRM) is the joint management of natural resources by a community based on a community strategy, through a participatory mechanism involving all legitimate stakeholders. The approach is community-based in that the communities managing the resources have the legal rights, the local institutions and the economic incentives to take substantial responsibility for sustained use of these resources. This implies that the community plays an active role in the management of natural resources, not because it asserts sole ownership over them, but because it can claim participation in their management and benefits for practical and technical reasons¹⁻⁴. This approach emerged as the dominant conservation concept in the late 1970s and early 1980s, of the disillusionment with the developmental state. Governments across South and South East Asia, Africa and Latin America have adopted and implemented CBNRM in various ways, viz. through sectoral programmes such as forestry, irrigation or wildlife management, multisectoral programmes such as watershed development and efforts towards political devolution. In India, the principle of decentralization through 'gram swaraj' was introduced by Mahatma Gandhi. The 73rd and 74th constitution amendments in 1992 gave impetus to the decentralized planning at panchayat levels through the creation of a statu-

tory three-level local self-government structure^{5,6}.

The strength of this book is that it includes chapters by CBNRM advocates based on six seemingly innovative initiatives being implemented by non-governmental organizations (NGOs) in ecologically vulnerable regions of South Asia: two in the Himalayas (watershed development programme in Lingmuteshhu, Bhutan and Thalishain tehsil, Paudi Grahwal District, Uttarakhand), three in semi-arid parts of western India (watershed development in Hivre Bazar, Maharashtra and Nathugadh village, Gujarat and water-harvesting structures in Gopalapura, Rajasthan) and one in the flood-plains of the Brahmaputra–Jamuna (Char land, Galibanda and Jamalpur districts, Bangladesh).

Watersheds in semi-arid regions fall in the low-rainfall region (500–700 mm) and suffer the vagaries of drought 2–3 years in every five-year cycle. In all these locations, the major occupation is agriculture, most of which is rainfed or dry. The other two cases (in Uttarakhand) fall in the Himalayan region (temperate/sub-temperate climate), which has witnessed extensive deforestation in the last century and is now considered as one of the most vulnerable locations in South Asia. Terraced agriculture is being practised in these locations for a long time. The last case (Gono Chetona) falls in the Brahmaputra–Jamuna charlands which are the most ecologically vulnerable regions in the sub-continent with constantly changing landscape. Agriculture and livestock rearing are the main occupations, and there is substantial seasonal emigration for wage labour by the adult males. River erosion and floods force the people to adopt a semi-migratory lifestyle.

The book attempts to analyse the potential as well as limitations of NGO-driven CBNRM endeavours across agro-climatic regions of South Asia with emphasis on four intrinsically linked normative concerns, namely sustainability, livelihood enhancement, equity and demographic decentralization in chapters 2–7. Comparative analysis of these case studies done in chapter 8, highlights the issues that require further research while portraying the strengths and limits of NGO-driven CBNRM. In Hivre Bazar, the post-watershed intervention scenario is such that farmers often grow three crops in a year – kharif

bajra, rabi jowar and summer vegetable crops. Productivity has increased in the dry lands due to improvement in soil moisture levels. The revival of johads in Gopalpura has led to the proliferation of wheat and increased productivity. In Lingmutyechhu, productivity gains have also arisen, but more due to the introduction of both local and high-yielding, new varieties as opposed to increased water availability. In the case of Gono Chetona, improvements have come due to diversification of agriculture; for example, the promotion of vegetable gardens. CBNRM interventions in most cases have also led to new avenues of employment and income generation.

The synthesis shows that CBNRM efforts have made significant contributions to livelihood enhancement and only limited gains in terms of collective action for sustainable and equitable access to benefits and continuing resource use, and in terms of democratic decentralization, contrary to the objectives of the programme. Livelihood benefits include improvements in availability of livelihood support resources (fuelwood, fodder, drinking water), increased productivity (including diversification of cropping pattern) in agriculture and allied activities, and new sources of livelihood. However, NGO-driven CBNRM has not met its goal of providing 'alternative' forms of 'development' due to impediments of state policy, short-sighted vision of implementers and confrontation with the socio-ecological reality of the region, which almost always are that of fragmented communities (or communities in flux) with unequal dependence and access to land and other natural resources along with great gender imbalances. Appalling, however, is the general absence of recognition of the importance of and the will to explore practical ways

to bring about equitable resource transfer or benefit-sharing and the consequent innovations in this respect that are evident in the pioneering community initiatives such as pani panchayat, etc.

Pertaining to the gains on the ecological sustainability front, Hivre Bazar and Thalissain initiatives through active participation of villagers have made significant regeneration of the water table within the village, and mechanisms such as ban on number of bore wells, the regulation of cropping pattern, restrictions on felling of trees and free grazing to ensure that in the future, the groundwater is neither over-exploited nor its recharge capability impaired. Nevertheless, the long-term sustainability of the interventions in the case of Ghoga and Gopalpura initiatives as the focus has been mostly on regeneration of resources, and less on regulating the use of regenerated resources. Further, in Lingmutyechhu and Gono Chetona, the interventions are mainly household-based and the focus has been less explicit on ecological components.

The studies demonstrate the livelihood benefits to all of the interventions and significant variation in achievements with reference to sustainability, equity and democratic decentralization depending on the level and extent of community participation apart from the vision of implementers, strategy (or nature of intervention shaped by the question of community formation), the centrality of community formation and also the State policy. Case studies show that the influence of State policy is multi-faceted and often contradictory in nature. This necessitates NGOs to engage with the State in a much more purposeful way than in an 'autonomous space'. Thus the role of NGOs in CBNRM is complementary, wherein they provide innovative experi-

ments that the State can learn. This helps in achieving the goals of CBNRM through democratic decentralization. The book addresses the vital issues related to natural resource management and interests of the community. Key topics discussed throughout the book are still at the centre of the current debate. This compilation consists of well-written chapters based on rigorous synthesis of CBNRM case studies, which will serve as good references for students, researchers and practitioners in the years to come.

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