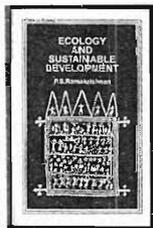


## Ecology and Sustainable Development

*M D Subash Chandran*



*Ecology and Sustainable Development*

P S Ramakrishnan

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pp. 198, Price: Rs. 70/-

Humans have been living as part of natural ecosystems like humid tropical forests since millennia creating perturbations of different degrees and yet attaining a sustainable relationship with their surroundings. Over time they have evolved organic and cultural linkages with nature. Contrary to popular notion, most tropical forests of the world are not pristine. Patches of primary, secondary and managed forests, moulded through historical times, are to this day associated with many agricultural landscapes. Ignorant of the traditional ecological knowledge (TEK) the whizkids of development tend to keep away the indigenous societies, leading towards social conflicts and ecological mismanagement.

In his book on *Ecology and Sustainable Development*, P S Ramakrishnan, renowned Indian ecologist, who spent years studying the indigenous agro-ecosystems of biodiversity-rich north-east India, seeks to harmonize conservation and development through community participation. This sleek volume of nine chapters points to the flaws in the popular concept of development as limitless

economic growth, an approach that has marginalised the indigenous people and their ecological wisdom.

Forest ecosystems are prone to various perturbations. The death and falling of an aged tree, creating a canopy gap, triggers off a flurry of activity on the forest floor to fill up the lacuna. The *jhum* or shifting cultivation systems of the north-eastern India were originally adjusted to the rhythms of the forest. On the contrary, the revenue and industry oriented forest management tends to create larger perturbations, making the forest recovery a slower process or a failure altogether.

To alleviate the contemporary environmental problems, the author recommends additional pathways for eco-friendly development. A village, enmeshed with forest and forest related activities, agriculture and animal husbandry, functions as an ecosystem. The incorporation of TEK in developmental pathways could ensure community participation. India has a rich repository of TEK, a celebrated example being the Ayurvedic health care system. Especially in the Indian highlands, the people maintain a variety of complex multi-species agro-ecosystems. These traditional systems have greater stability than modern monocultures and they ensure better food security. The numerous sacred groves, which shelter rare species and ecosystems, a heritage from pre-historical times, are the result of long periods of cultural interactions of humans with nature.

The book also deals with the perils of global

climatic change, globalisation, deforestation, biological invasions and biodiversity depletion. Cultural homogenisation, resulting from the globalisation process, is considered a danger to TEK. The right kind of local, national, regional and global level institutions will enable us to arrive at “compromises as required for sustainable development.”

Aggressive agricultural strategies can create fast exhaustion of tropical soils, the symptoms of which are perceptible in the Gangetic plains, the heartland of the green revolution in India. Warmer soil temperatures combined with highly seasonal rainfall accelerate soil degradation, unlike in the cooler temperate zones where the process is slower. Creation of species rich home gardens is, therefore, recommended for food security. Biodiversity linked TEK is ideal for maintaining soil fertility. Integrated landscape management, including the creation of village woodlots, could help us to cope up with climatic change.

The chapter on sustainable tropical forestry recommends a link up of forestry with sustainable development that ensures food, fodder, fuel and timber. Multipurpose species based rural forestry systems, while enhancing the quality of rural life, could also ease pressure on natural forests.

The case studies such as shifting agriculture-related landscape management from the north-east, land-use linked water management from the Himalayan foothills, the *johad* dug-out tanks of the arid Rajasthan, and forest restoration cum water-harvesting experiments in the Himalayas, are incentive

enough for supporting the revival of traditional ecological systems.

In contrast are the problems arising from the homogenisation of the landscape. The widespread cultivation of rubber in Kerala caused not only extensive land degradation and soil pollution, but also created social disruption among the traditional hill societies. In Haryana, high input green revolution has caused homogenisation of the landscape and consequent degradation of land.

The book brings forth formulas and perspectives for sustainable development and management of ecosystems ranging from secondary forests and rangelands to wetlands and mangroves. One wonders, however, whether the author's quest for holistic coverage crams the book with too many things, difficult for the reader to comprehend. True to the spirit of the down to earth approach adopted, the author has not used language with flourish, that could have been a greater attraction for readers of this otherwise thoughtfully composed work. Nevertheless, the book is a pioneering one of its kind from India.

The book ends logically with gospels on ecology and ethics. Ecology has to be firmly rooted in the cultural ethos of the people, otherwise culture-specific land-use systems of already marginalised societies would be gradually wiped out without any viable alternatives leading to ecological catastrophes and large-scale social disruptions.

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