and Hilbert should mention the full initials of their names properly). I hope the author will make all these corrections in a future edition.

Finally, the author is quite well-known for his work (with M. A. Abramowicz) on centrifugal force reversal near a Schwarzschild black hole. I feel he could have included a qualitative discussion on this unusual effect in his book. Presumably, modesty forbade him to discuss his own work, though I strongly feel that this would surely have been an added attraction.

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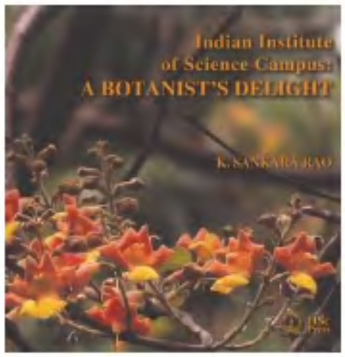

Indian Institute of Science Campus: A Botanist's Delight. K. Sankara Rao. Indian Institute of Science, Bangalore. 2008. 224 pp. Price not mentioned.

This beautiful book brought out to mark the centenary of the Indian Institute of Science (IISc), Bangalore, fully justifies the title. An area covering 320 acres of scrub land gifted by Nalvadi Krishnaraja Wodeyar, the Maharaja of Mysore in 1907, houses the prestigious 'Tata Institute' as it is familiarly known by the people of Bengaluru. Taking a walk through the avenues, side walks, woods, faculty buildings, residences, guest houses and nursery has always been a pleasant experience for me. Some tree or the other is always at bloom, but the best season to visit IISc is from February to May, when colourful blossoms of various hues – gulmohur, cassias, jacaranda, bauhinias, the yellow Carribean tree, copperpods, yellow silk cottons and coral trees fill your heart. Carpets of fallen flowers are a sight to behold. The author, K. Sankara Rao (KSR) is a Distinguished Fellow at the Centre for Ecological Sciences (CES) in IISc. He has wide interests.

KSR's introduction gives a short but vivid picture of a blend of the wild and domesticated plant diversity of the campus. He traces the history of greening of the campus, around 1930s and introduction of native and exotic perennials (*Araucaria*, *Tabebuias*, balsa, shaving brush tree, etc.) at various periods of time by the Directors of the Institute (and their spouses), horticulturists, plant lovers and members of the faculty. Over 800 species of plants are estimated to be growing in the Institute. About 285 plants are included in the book, which is user-friendly and has a map of the campus, a useful glossary of the terms and an index of plant names.

Beautiful pictures are grouped in plates. Each displays a part or the whole plant with enlargements which bring out the structure of the flowers and fruits. The common English name, the scientific name, the family to which it belongs and a brief description of the unique features are given for each plant. The flowering and fruiting seasons, the location of the plant(s) and their nativity are provided. Technical terms have been minimized to arouse interest among the beginners.

The plants displayed in the book are diverse. They comprise trees, shrubs, palms, bamboos, gigantic lianas, (specially the Callingcard Vine across CES) and slender climbers, ephemeral wild annuals, as well as beds of annual ornamental herbs, grasses, sedges, succulents, aquatic and marsh plants, orchids, flowering parasites and gymnosperms (seed plants that bear no fruits). A list of 290 plants commonly found on the campus but not included in the book is also appended for those interested in exploring the campus further. Unlike wild animals, plants are glued to the earth. Yet they present special problems to a photo artist. One rarely finds a clear foreground and an uncluttered background. Frequent visits to the perennial plants are necessary to capture the unfolding of the foliar and flower buds, open flowers and stages of fruit development. These difficulties are seldom understood by the readers. KSR is an expert photographer. This asset helps him use his mind, eye and the index finger in capturing the beauty of the whole plants. Despite the several problems, KSR has made an admirable effort in producing an aesthetically appealing and scientifically accurate work, worthy of the occasion. I would like to complement the author and his associates Suresh and Datta Raj and all those who have contributed to the compilation of this attractive volume and the Director, IISc and colleagues for their persuasion and encouragement.

This elegant book is bound to invoke nostalgia among the alumni and enthuse the present and future generations of faculty and scholars to learn more about the splendour of plant life. Centenary is an occasion to record our gratitude to the superintendents and gardeners who have tended the plants with love, year after year. A lofty tree could be named in their honour. Pragathi Press, Hyderabad deserves appreciation for the elegant production.

Several heads of scientific and educational institutions, in their enthusiasm to construct new buildings and roads, have become insensitive to the beauty, serenity and tranquility that plants provide. IISc stands out as a model for cherishing

a, *Pseudobombax ellipticum* (H.B. & K.) Dug. ***b***, *Saraca asoca* (Roxb.) de Wilde.

microbes, plants, animals and birds on the campus as integral components of its ecosystem.

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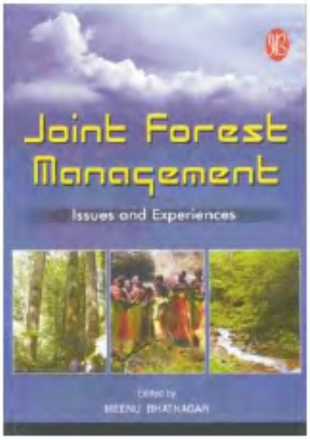

Joint Forest Management: Issues and Experiences. Meenu Bhatnagar (ed.). The Icfai University Press, 52, Nagarjuna Hills, Punjagutta, Hyderabad 500 082. 2008. 209 pp. Price: US$ 16.

Sustainable natural resource management has often been a great challenge for planners, decision-makers and resource managers in the context of economy-driven development paths, and consequent erosion of resources. During the pre-colonial period, the forests were controlled and managed by village communities resulting in a common property regime with no private claims by individuals, and the forests were accessible to all community members according to their needs[1,2].

The Forest Act 1828, followed by the Forest Act 1928, helped to bring the best forestlands throughout the country under the State control as 'reserve forests', and these areas were made inaccessible to local people. A National Forest Policy was formulated in 1894 to guide technical management of forests rather than ecosystem-based approaches in the management. When the National Forest Policy came into existence in 1952, use of forests by adjoining village communities was relatively restricted at the cost of national interests. Managing the forests by giving importance only to larger national interests and overlooking the people's needs resulted in forest degradation, which further led to ineffective protection of forests by the Forest Department. The twin processes of decline in customary resource management regimes and the acquisitive tendencies of the State, have resulted in higher rates of deforestation and unregulated, with unsustainable use of forest produce. This necessitated active participation of local communities in forest conservation, resulting in a paradigm shift in natural resources management in the late eighties. This conservation approach also focused on decentralized level of governance with participation of the local communities through the Joint Forest Management System by linking socio-economic incentives and forest development, which further harbingered effective and meaningful involvement of local communities. Thus, India has been at the forefront in the global arena of devolving natural resources management to the local community level, particularly in the forestry sector, for more than a decade.

The Indian Forest Policy of 1988 was an important breakthrough in the protection of forests because it mainly recognized the importance of local people's involvement in forest management for achieving the improvement in community livelihood and protection of forest resources. The concept of livelihood integrates the ecological, economic and social well-being of people. The livelihood framework identifies five core, interlinked asset/capitals, viz. physical, financial, social, natural and human capital. In a follow-up document issued in 1990, the Central Government issued guidelines to all State Governments to implement 'Joint Forest Management Systems' by transferring everyday forest use and management rights to the community[3,4]. The policy laid stress on environmental protection, conservation and 'meeting the requirements of fuel-wood, fodder, minor forest produce and small timber of the rural and tribal populations' and 'creating a massive people's movement with the involvement of women for achieving these objectives' (GOI, 1988). The 1988 Forest Policy of India[5], articulated the twin objectives of ecological stability and social justice. In order to translate the participatory policy objectives into practice, the Ministry of Environment and Forests, Govt of India on 1 June 1990 issued a circular to Forest Secretaries of all States and Union Territories providing guidelines[6] for the 'involvement of village communities and voluntary agencies in the regeneration of degraded forests'. The policy document asserts that local communities should be motivated to identify themselves with the development and protection of the forests from which they derive benefits. Thus, the policy envisages a process of joint management of forests by the State Governments (which have nominal responsibility) and the local people, to share both the responsibility for managing the resources and the benefits that accrue from this management. This led to the adoption of Joint Forest Management (JFM) by several State Departments. Thus, JFM evolved from the conflicts that arose over local use rights, for subsistence, commercial use and preservation of environment and ecology. The major landmarks during the post colonial period are: The Zamindari Abolition Act, 1952; National Commission on Agriculture, 1976; Forest Conservation Act, 1980, and the subsequent National Forest Policy, 1988. The various initiatives have led to greater access and control of forest resources by local people, in turn resulting in the improvement in forest protection and management, and reducing pressure on resources. There has been a nationwide implementation of JFM since 1990, covering more than 17.33 mha of forest area being managed through more than 84,000 village forest protection and management committee (VFPMC) groups. The JFM approach is based on mutual trust, defined roles and responsibilities to attain sustainable forest production and regeneration in keeping with the needs and aspirations of all stakeholders. The focus is on empowering locals with livelihood options through local, people-friendly forest strategy.

This book consists of two sections with a total of fifteen articles. The first section addresses potential, challenges, multi-sectoral approaches, policies, etc. The second section dwells on the experiences in the implementation of JFM. The book also covers the discussion on JFM's relevance, challenges, performance, emerging practices and state experiences.

The first chapter by Bhatnagar focuses on the concept, strategies, potential and benefit-sharing in JFM, while addressing the issues involved in it. The role of