



**Living with the Politics of Floods: The Mystery of Flood Control.** Dinesh Kumar Mishra, Peoples' Science Institute, 252 Vasant Vihar-1, Dehradun 248 006. 2002. 124 pp. Price: Rs 360.

Originally written in Hindi by a civil engineering graduate from IIT, Kharagpur, this work on a subject of great societal concern is one of the finest books I have read in many years. Profusely and beautifully illustrated, the book provides a telling commentary on the failure of governmental efforts to mitigate the hazards of floods in northern Bihar, where 76% of the area continues to be affected by floods and 87% of the population, who depend on agriculture for a living, live a life of unending distress. The author has delved deep into the literature and brought out many eye-opening facts – the *shlokas* in *Mahabharat* and *Valmiki Ramayan* describing river embankments and dams for containing flood hazards, the *Naradiya Puran* elaborating on the free water regime of rivers and channel zonation for flood management, the British engineers speaking out openly since mid-19th century against civil engineering structures that obstruct natural drainage (such as embankments) to tame the flood-prone rivers. 'The Damodar (river) taught a practical lesson to the British that it does not pay to tamper with the rivers loaded with sediments. Therefore they never tried to control floods as long as they stayed in India' (p. 27).

It was in 1954 that the Indian engineers with political support first embarked upon civil-engineering measures for flood control. As a consequence, natural drainages of rivers were disrupted and the flood fury grew in intensity and areal extent. The flood-affected area in Bihar increased from 2.5 million hectares (m ha) in 1952 to 6.9 m ha in 1994, and 8,00,000 ha of agricultural land became water-logged. Going hammer and tongs against the technical pre-

scriptions and practices of civil engineers, that proved wholly counter-productive and in many cases, even extremely harmful to the people living under the false security of man-made structures, Mishra makes a strong plea for re-adoption of traditional measures of coping with growing hazards of a deluge. He is all for spreading flood water over as large area as possible, the flood-plain zonation (indicating areas of inundation and identifying location for shelter) and tackling flood at the local level using peoples' science and technology, such as building houses that can withstand the fury of floods, making raised grounds for building community shelters during floods, etc. In the author's opinion, living with floods means minimum interference with the workings of Nature.

This immensely readable book, however, suffers from quite a few superfluous digressions such as 'Earth comes into being' and 'Origin of the Himalaya' (p. 15), 'Fads of Politicians and Engineers' (p. 40), 'The Craze for Foreign and Foreigners' (p. 41), 'Politician Rules the Roost' (p. 40), 'The Controllers and Victims of Floods' (p. 88).

The telling cartoons and expressive pictures in colour not only impart punches to the author's assertions, but also bring out eloquently the message he wants to convey. I strongly recommend this book for all libraries, public as well as private.

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**Animal Attractions: Nature on Display in American Zoos.** Elizabeth Hanson. Princeton University Press, 41 William Street, New Jersey 08540, USA. 2002. x + 243 pp. Price: US \$29.95.

By definition, a zoo is a place where many kinds of animals are kept for exhibition. Traditionally, zoos were set up purely for the purpose of entertainment. Animals, especially mammals, were collected from all over the world to be displayed in zoos to the public. Over the years, when animal numbers reduced in

the wild and they were threatened by extinction, US zoos emphasized on the importance of breeding programmes to maintain self-sustaining populations in captivity. This change in the views of the US zoo people (people who set up and promoted zoos as well as the people who managed them) has been explained in Elizabeth Hanson's book *Animal Attractions: Nature on display in American Zoos* in so innovative a fashion that professionals and the common man alike can perceive and relate to the captive environment. A zoo is described as an environment for '... urban Americans to encounter the natural world...' (p. 3).

Today, some of the world's best zoos are in the US and they focus on conservation, research and education. They have not only managed to make the American public aware of wildlife conservation, but have also supported conservation of their environments directly by funding both individuals as well as institutes all over the world. In her book, the author first draws the reader's attention to the goals of a zoo and how it has gradually changed over the years. With time, the goals of US zoos shifted from primarily being for entertainment to complementing *in situ* wildlife conservation by *ex situ* efforts. Could a drift such as this in the zoos' focus be influenced by the shift in ideology of the common man? According to Hanson, zoos in the US were promoted by the upper urbanites. Could it be that the American aristocracy who travelled far and wide became aware of the immediate danger that the wild cousins of their zoo inmates were in? Travelling in time, visiting zoos of the past and those of the present were thought-provoking, but in my opinion, a comparative study of the gradual shift in perceptions of the zoo people and the public, as well as the zoo revolution would have given readers a better insight into the subject itself.

Several topics have been discussed at length in this book: issues of zoo management such as fund-raising, animal expeditions, choice of species in animal collections, how certain animals were used to raise money, the wild animal trade, the evolution of exhibit design, the revolution in the goals of a zoo, environmental laws and policies; and finally science, research and education. A private zoo needs to be more than just self-sustaining to survive. A successful zoo requires a good team of committed zoo

staff, a wide variety of species, and fascinatingly designed exhibits that invoke curiosity and interest in the visitors. A zoo needs to keep its public happy. Why did the aloofness of the zoos of the past from their visitors over the years blossom into an intimate understanding of each other's needs in the zoos of today? Could it have something to do with the type of people that visited the zoo?

The most debatable part of the book, and one which should be treated with some scepticism, is the reiteration of the author's beliefs that it was only the middle-class sub-urbanites who visited and could relate to the zoo setting. According to the author, zoos were designed like city suburbs and university campuses, hence reminding the middle class of their own homes. In her own words: 'they were middle landscapes – landscapes of peace, harmony, bounty and wonder – infused with a middle-class ethos and included to elicit middle-class standards of behaviour' (p. 37). Personally, I would prefer to believe that zoo visitors are a conglomeration of people from all strata of society, be they rich or poor, educated or uneducated, and including all classes of people. This extensively researched study explores the cultural and physical landscape of the urban society and compares it to the zoo. Would not the rural people be reminded of their hedgerows and farmyards when they pass the fox or the prairie-dog exhibit? Ironically, the author further contradicts herself by drawing attention to the strong link that she suggests exists between the aristocracy, upper urbanites and zoo de-

velopment. Would not the rich and famous design zoos or promote zoo designs that they themselves identified with, like their palatial homes? Although these present interesting viewpoints for debate, I do agree with the author on a number of points, one of them being 'everyone could profit from a visit to the zoo: young, old, rich, poor, scientist, teacher, student, even the mere gazers' (p. 40).

While reading the book, readers may have to flit back and forth in time if they have to comprehend the author's intent fully. The way in which she discusses the zoos of the 19th and 20th century and compares them with those of today makes it difficult for readers to grasp the connection between the old and the new. For example, she glosses over the fact that, in the 19th century, many captive animals died of stress and disease but more animals were brought in from the forests of Africa and Asia. Over the years, the zoo staff became interested in keeping their inmates alive. And soon this developed into a specialized field of study, important in its own right. Today, zoos in the US hire highly specialized veterinary consultants to treat their animals. Several zoos have their own full-time veterinarians. In some situations, zoo animals are more susceptible to disease in captivity than are their wild cousins. This could probably be due to reduced immunity, or proximity to other species or an unhealthy diet. Zoo veterinarians of the 21st century monitor all these factors and more. Animal welfare and animal health are the most important

aspects in the maintenance of steady-state propagation of any species. None of this is, however, detailed in the book. Reviewing the initiation and progress of animal health-monitoring protocols in US zoos would have been imperative in order to draw a more holistic understanding of the zoos of today.

The last three decades of zoo biology and the era of the modern zoo have been reviewed in the last chapter of Hanson's book. Several important concepts such as policies on global animal trade, wildlife conservation, education, research and even animal welfare and animal rights have been studied, but at a superficial level. An important question that deserves far greater attention, for example, concerns the gradual process by which zoo people in the US began to infuse animal exhibition with the science and conservation of individuals, species and habitats. A more in-depth study of the evolution of the modern zoo and the reasons behind their revolutionized new image would have contributed much more significantly to the way in which the reader is able to perceive the multi-dimensional role that zoos may have to fulfil in the future.

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