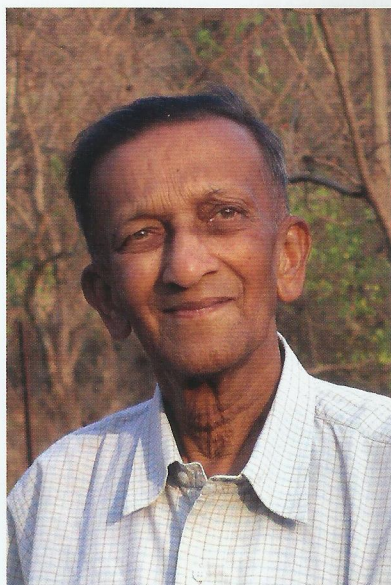


Team of Oikos for Ecological Services, Pune

PRAKASH GOLE

A T R I B U T E



“If economics is primarily concerned with allocation of scarce resources among competing wants, it ought to show deep understanding of resources and their utilization. It does nothing of the sort. Mainstream economics tries to interpret and analyze the working of Industrial Capitalism and that too without any attempt to probe the foundations on which Industrial Capitalism stands. It's time that we realize the very foundation of our economy and healthy & happy life which is bountiful nature with biodiversity and healthy natural resources and processes.”

On having heard this statement in a classroom at the Ecological Society's course on 'Sustainable Management of Natural resources and Nature Conservation' we were surprised, blown away, and for the first time in our life we knew we were studying some real aspects of life through ecology. It was not just an environment course; it was THE course on the subject.

Prakash Gole founded 'Ecological Society' in 1982 and had been conducting this course since 1998. Today we have hundreds of his students – people from all walks of life, from housewives to professionals, all under one roof, feeling blessed to unlearn 'conventionalism' and 'understanding reality'. For Gole Sir this process had started right in his teens. He has always been a pioneer his entire life. A self starter, as a youngster he was an excellent mountaineer and trekker, he founded his own organization called 'Bharat Outward Bound Pioneers' way back in 1962 which was the first of its kind. It was during nurturing of this hobby that he took up his bird-watching passion. And then he never looked back. Gole Sir formed the Pune branch of WWF in 1969 and was the first to introduce nature-camps to common public. The idea was a hit,

it introduced the common man to basic aspects of ecology. Through WWF and individually, Gole Sir has done some path breaking research on birds ranging from the Black necked crane, Siberian crane, Saras crane, Bar-headed geese. His profession and passion took him to extreme parts of the world, from interiors of Leh-Ladakh and Arunachal Pradesh to right in the middle of the Siberian marsh land. He worked relentlessly and has authored a number of books on his subjects. His association with the father of ornithology in India – Dr. Salim Ali and their contribution has been monumental.

Gole Sir's role in the field of nature conservation and restoration is unparalleled. He worked very hard for creating the Mula-Mutha bird sanctuary, again a first of its kind being right in the heart of the city to huge projects of restoration of degraded ecosystems like Panshet and Phaltan. He has represented India in innumerable conferences and seminars globally. He pioneered the first 'Pakshi Mitra Sammelan' at Lonavla and it turned out to be an excellent networking opportunity in smaller towns and rural areas that popularized the concept of bird watching and observing various facets of nature.

Book Review by Dr. Shishir R Raval

The review was written just before passing away of Mr Prakash Gole

List of Books by Prakash Gole

Deluge in Poona

Environment and Ornithology in India

Nature and Conservation and Sustainable Development

The Restoration of Nature

Nature conservation and economic realities

Understanding Reality

Journals of Ecological Society

Interlinking of various subjects was something that always amazed us students. The history of world, mankind, geographic scales, natural processes, science, quoting literature on the same, the economies of scale of production – it was overwhelming. It made you a better person at the end of the day, someone who questioned his own rationale and who thought of alternative sustainable solutions in his daily life/ profession.

The mediocre teacher tells.

The good teacher explains.

The superior teacher demonstrates.

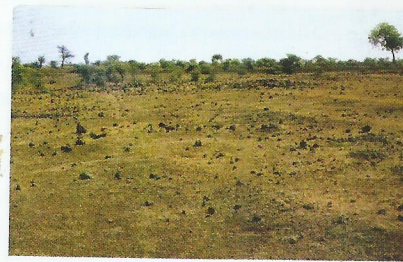
The great teacher inspires.

—William Arthur Ward

Gole Sir has ignited our minds to think beyond the obvious. A real tribute to him can only be by inculcating and passing on his philosophy through generations. The degradation of nature around us is a symbol of degradation of the values in society, but there is still hope, and we hope to continue his legacy through our work.

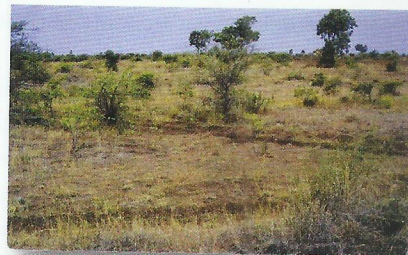
Manasi Karandikar, Ketaki Ghate, Sonali and students
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THE RESTORATION OF NATURE



The Restoration of Nature

Prakash Gole



The Restoration of Nature
Author: Prakash Gole
Published by Ecological Society, Pune (2007)
Size: 139 mm x 215 mm
Pages: 125

As aspiring students or as practitioners of landscape architecture and allied disciplines, in our quest to pursue and practice these pragmatic and poetic disciplines, we face many issues and opportunities that demand our critical care and creative input.

One such issue and opportunity is to work with the oft-neglected, damaged, and degraded parts of landscapes. Rarely we become aware of and learn enough in our formal built environment education or practice about the whats, whys, wheres, whens, and hows of dealing with such landscapes. Hence, our understanding and effort remain sketchy.

In India, like in many countries, the incremental rate of quantitative and qualitative loss of natural and semi-natural landscapes such as the woodlands, wetlands, and grasslands, mainly due to human greed and ignorance, is very alarming and a cause for deep concern. A casual web search yields grave numbers and picture on this topic. As the human onslaught on this planet's terrestrial ecosystems increases, restoring damaged ecosystems and landscapes will progressively need more attention and care from the academics, professionals, policy makers, politicians, developers, and citizens at large.

In this context, I was fortunate to come across and read a small (in all 125 pages) but timely and compelling book, *The Restoration of Nature* by Prakash Gole. There is no subtitle to convey its focus or scope. It covers a vast, emerging field of "restoration ecology" along with aspects of ecosystem ecology and human ecology. In parts, the book would be tough to dig into for a reader who is unfamiliarity with the terms and details used to describe the sciences and techniques involved in restoration work. Yet, Prakash Gole, the author who is an eminent naturalist, teacher, and founder of the Ecological Society in Pune, has written the text in a very accessible and, at times, poetic manner, evoking vivid images and thoughts in the reader's mind. It is quite evident from his detailed observations that he has immense field experience and knowledge about the subject. Except for a 1998 book (*Damaged Ecosystems and Restoration*, edited by B.C. Rana),

few and hard-to-find research articles, book chapters, and some professional projects, there is hardly anything substantial or systematic available on this subject in a single volume in India. That is why it is fortuitous to have this book available to us.

The book is divided into an introductory essay, "The Restoration", and five fascinating case studies. Many photographs, lists, tables, and diagrams aid in comprehending the concepts and work described in this book. It also has a somewhat dated bibliography and an index of subjects.

The long introductory essay does a fairly good job for those who want to get familiar with the definitions, themes, types, and strategies of restoration of nature (ecosystem or part thereof). It is further divided into eight, somewhat disjointed, sections on various topics.

The section on seventeen "Restoration: Guiding Principles", setting the tone for the book, has been adapted from the US Environmental Protection Agency. They are more like guidelines than principles. These range from primacy of protection, use of reference site, restoring natural structure and function, focus on feasibility, to monitoring and modification of restoration work. The remaining essay covers whole array of topics related to restoration such as necessity and essentials of restoration, restoration of streams and water bodies (reservoirs) and derelict lands, relationship to sustainability, vegetation management, and restoration strate-

gies. While all this is informative with some interesting details (ex: "50% of defoliation and dryness of leaves will indicate 100% depletion of groundwater", p. 27), the author could have used his experience to critically evaluate the ideas and better organize these topics. This essay is followed by five detailed case studies, all located in Maharashtra.

Case Study I is a 1986 project about "greening" of a small patch of a barren hill near a dam in the Western Ghats. Detailed observations over three years of seasonal changes, importance of protection of the site while restoration work is going on, and the economics of restoration work are the highlights of this case study. Concepts such as resilience, pioneer species, and succession also become evident here.

Case Study IIA and IIB cover a project between 1990-1993 about restoring and managing human-made wetlands in the context of a large impounded irrigation reservoir on Bheema River in Solapur district. Together, these two parts form the most comprehensive and in-depth case study on restoration (of wetlands). Part IIA is focused on how human intervention (in this case, a reservoir) changes the inter-relationships of "innumerable lifeforms" (p.56) with their transforming and dynamic ecosystem. Detailed descriptions of the site (structures), food-water-energy flows (functions), and consequences among and between the abiotic and the biotic components (including humans for fodder, fuel, and food) of the human-made ecosystem allow one to

understand a plan of action necessary to realize the project's objectives. Together, these themes provide a fascinating picture of what, why, where, when, and how of a restoration project. Part IIB, then, focuses on the management of the site and covers in detail aspects of hydrological regimes, habitat types and suitability, and implementation and monitoring. Brief description of the oft-neglected political and administrative dimensions of this project adds value to this part.

Case Studies III (1996-1999) and IV (2002-2004) are focused, respectively, on damaged slopes upstream (borrow area for soil and rock) and downstream of a small dam and a grassland in rain-shadow areas of the Western Ghats. These case studies again point to the need for restoration to be for both nature's and society's sake. They also describe importance of curbing human and cattle uses on restoration site, abiotic measures (for restoring land from, soils, and microclimate), and conserving moisture in restoration of damaged landscapes. They end, respectively, with a discussion on indications of successful restoration and a lament: "Will our economists, educationists, social and political leaders show enough courage to tread a different, alternative path?" (p. 120).

In these case studies, the author has nicely juxtaposed the dilemmas of and choices for the human and non-human stakeholders. For those getting initiated in this subject, it might be necessary to refer the introductory essay while read-

ing the case studies. An epilogue of sorts on what ecosystem and human ecology lessons have emerged since the work was implemented till now, with suggested changes in the initial plans or strategies, would make the book more useful to the students and practitioners. Also, the author is obviously more knowledgeable and hence more descriptive about plant and animals before, during and after restoration (than about the details of abiotic measures). "How-to", technical, and well-illustrated process diagrams of abiotic and biotic measures for different site conditions would have tremendously added value to this book. Since all the case studies are from Maharashtra state, its specific applicability to other types of ecosystems in our subcontinent is somewhat limited.

Overall, the narrative is earnest and direct, almost as if the text is a transcription of the author's richly descriptive lectures to his students. This is what makes this book at once highly informative and, at times, difficult to read. Minor typographical errors also mar the text somewhat. Overlap and links with Landscape Ecology and Conservation Biology, if explained explicitly, would have also helped shed light on the bigger picture and ensured greater awareness of the issues and opportunities. Yet, it is a very good beginning and more should be expected from this author as well as others who are engaged in the noble endeavor of nature restoration.

Making ecological structure more intact so that ecological functions can be restored to a desirable level of fidelity is a

much needed and worthwhile pursuit. However, there are challenges, other than just access to and development of relevant knowledge and skills, to achieve this necessary objective. Can we address inadequacies in the realms of politics, administration, and economics of our society to focus on this work? How can we address environmental justice issues through protection and just use of existing intact or restored landscapes? Ideal as it maybe, should we also not work toward less human-centric and more ecosystem-centric regenerative capacities that, in turn, make ecosystems inherently more resilient to human and natural dynamics? Is it not possible that restoration can lead to complacency and we may continue to damage nature and her intrinsic values in our pursuit of "development"? How design can be integrated with the science and practice of restoration? These are peripheral but critical issues that this book raises indirectly but doesn't address adequately. Maybe, it is our collective responsibility now to carry forward more praxis and scholarship on this subject.

This small but potent book with rich personal experiences of practically implementing various types of ecosystem restoration projects needs to be read and referred. Its lessons need to be tested by academicians and practitioners of landscape architecture and allied disciplines as well as by anyone else concerned with the issues raised and opportunities offered by this critical and creative field.

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