FOREWORD

India has been elected to lead the Working Group VII/2 of the International Society of Photogrammetry and Remote Sensing (ISPRS) for the term 1996-2000. This Working Group deals with the "Application of Remote Sensing for Sustainable Development" under the Commission's main theme, "Resource and Environment Monitoring."

The explosive growth of population, constantly depleting natural resources and alarming rates of degradation of environment have forced the planners and managers alike to think and act in terms of sustainable use of natural resources. The latter basically refers to the maintenance of a fragile balance between productivity functions, and conservation practices through identification and monitoring of problem areas and proposes application of alternative landuse practices for socio-economic development, while aiming at restoration and improvement of all encompassing environment.

The sustainability of natural resources and environment has become a matter of primary concern for one and all, considering the explosive growth of world's population, depletion of natural resources at a very fast pace combined with all round degradation of environment. With a larger part of world's population inhabiting the rural areas amidst insufficient financial resources and infrastructural facilities, it is very important that all available technologies including that of Remote Sensing and Geographic Information System are utilised for the socio-economic as well as environmental development of such areas.

It was with this in view that a workshop on "Environmental modelling using RS & GIS for Sustainable development" was organised on 11th March 1999 at the Indian Institute of Remote Sensing, Dehradun, to coincide with the International Conference "Geoinformatics Beyond – 2000" on Geoinformatics for natural resource assessment, monitoring and management during March 9th - 11th, 1999.

The workshop course was adequately designed to include aspects of environment and its modelling using Remote Sensing and GIS which are necessary for the understanding and implementation of sustainable development programme, viz., Overview of space technology for sustainable development, Role of remote sensing for land resource development, Soil mapping, Land degradation, Forest ecosystems and ecological analysis, Hydrogeomorphological parameter for ground water modelling, Artificial recharge and water harvesting and agricultural crop acreage and yield estimation, and watershed management/planning. These topics were covered by experts from various units of Department of Space, viz., Space Application Centre, Ahmedabad; Regional Remote Sensing Service Centres, Nagpur and Dehradun; Advanced Data Research Institute, Hyderabad; National Remote Sensing Agency, Hyderabad; Indian Institute of Remote Sensing, Dehradun; and also Indian Institute of Science, Bangalore.

I hope this volume will be educative, and serve as a useful handbook for those personnel who wish to understand the intricacies of environmental modelling and its role in sustainable development.

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