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**REMOTE SENSING AND RESOURCE MANAGEMENT
IN THE HIMALAYAS**

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REMOTE SENSING AND RESOURCE MANAGEMENT IN THE HIMALAYAS

Management of natural resources and the modern technological options, available for planning and management, have been areas of primary concern for the Mountain Environmental Management Programme of ICIMOD. One of the major activities of this programme was the joint organisation of the "International Symposium on Mountain Environmental Management in the Hindu Kush-Himalayan Region" with UNESCO-MAB, from 11 to 14 April, 1989, in order to provide an opportunity for a fuller and meaningful discussion on these issues.

This was one of the papers prepared for, and presented at, this Symposium. This paper argues that the major factor limiting the efficient use of remote sensing is the lack of proper government policies for guiding resource management agencies in collecting and using this information. In addition, the paper *MEM Series No. 6* modest proposals for increasing the effectiveness of this technology.

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PREFACE

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This was one of the papers prepared for, and presented at, this Symposium. This paper argues that the major factor limiting the efficient use of remote sensing is the lack of proper government policies for guiding resource management agencies in collecting and using this information. In addition, the paper offers a number of modest proposals for increasing the effectiveness of this technology.

ABSTRACT

Remote sensing offers a number of benefits for resource management problems in the Himalayas. Aerial photographs are useful for their spatial resolution and their stereoscopic capabilities. Satellite images are useful for their synoptic view of broad areas, up-to-date repetitive coverage, and reasonable prices. At present, however, few benefits are realized from remote-sensing programmes in the Himalayas. This is due in part to technical problems. The large cell resolution of the Landsat satellites has been inappropriate for the small land holdings found in the region. Researchers have not developed models for applications in mountainous terrain. And most seriously, technicians have failed to develop methods for dealing with the effects of steep terrain on satellite data.

But, more fundamentally, the failure of Himalayan nations to use remote sensing effectively is due to institutional and policy constraints. These factors include restricted access to data, remote-sensing programmes run as personal fiefdoms, integragency competition, rigid bureaucracies, turf conflicts, inflexible data requirements, scarce resources, and lack of training. The most critical factor constraining the effective use of remotely-sensed information has been the failure of governments to develop policies for coordinating the collection and use of resource information on a national scale.

There are a number of useful roles a centre such as ICIMOD could play to help Himalayan nations overcome these problems. These include supporting regional meetings where scientists can share their experiences, encouraging the development of software and ecological models for use in mountainous terrain, conducting case studies in conjunction with national remote-sensing programmes, and sponsoring seminars to promote dialogue between users and collectors of remotely-sensed data. But perhaps the most significant role such centres can play is to work with government agencies to design policies for managing resource information in a coordinated manner.

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