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International Centre for Integrated
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HIGHLAND-LOWLAND INTERACTIONS IN THE GANGES BRAHMAPUTRA RIVER BASIN:
A REVIEW OF PUBLISHED LITERATURE

L.A. Bruijnzeel with C.N. Bremmer

ICIMOD OCCASIONAL PAPER No. 11

Kathmandu, Nepal
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ACKNOWLEDGEMENTS

The present report is the result of a chain of events: early 1987, I received a request from the "Ganges Working Group", based in Utrecht, the Netherlands, for information on the relationships between land-use practices in the Himalaya and flooding and siltation in the Indo-Gangetic plain. This request was prompted by the concern of these people about the so-called Dutch Inland Water Transport Project, which aimed at improving the navigability of the Ganges between Allahabad and Haldia. The discussion centered around the question to what extent reforestation of the uplands would have any effect on siltation and flooding in the lowlands, and therefore on the feasibility of the said project.

Although I had collected a fair amount of information on the Himalayan environment over the years, I was not aware of any in-depth study of "highland-lowland interactions", based on quantitative information rather than opinions. Christiaan Bremmer, a graduate student in my department, undertook the task of sorting out the literature and writing a very readable account, entitled: "The role of vegetation and land use in flooding, erosion and mass wasting in the Ganges drainage basin, India" as part of his studies in hydrology.

I ventured to send a copy of the review to ICIMOD for comments in the fall of 1987. Then came "the" flood in Bangladesh, and with it the invitation from ICIMOD to convert Bremmer's draft review into an ICIMOD Occasional Paper. Upon arrival in Kathmandu in late December 1988, I felt the need to expand the geographical scope of the study and so the Tsangpo-Brahmaputra basin was included as well. This of course meant that a great deal of new literature had to be included and much of January 1988 was spent in libraries in Kathmandu. Since then, a completely new report has been written, mainly in Amsterdam, based on about three times as many literature references as the original review contained.

It is a great pleasure to record the help received by a large number of individuals, both in Nepal and in the Netherlands. Without their support this report would not have been possible.

First of all I wish to thank Dr. Colin Rosser, Director of ICIMOD, for the opportunity to write this paper and visit Nepal on two occasions, and for his support throughout the course of the undertaking. The weeks spent at ICIMOD were very happy ones indeed, not in the least because of the interaction with its staff, notably Dr. Don Alford, Dr. Jayanta Bandyopadhyay, Professor Suresh Chalise, Dr. Anis Dani and Dr. Kk. Panday, all of whom readily shared their time, knowledge and sense of humour with me on many occasions. Professor Li Tian-chi, head of the Division of Mountain Environmental Management, and his administrative staff were most helpful in getting countless pieces of information xeroxed. It will be hard to forget your smiles. The ingenuity displayed by Mr. R.B. Shrestha (ICIMOD library) in obtaining some of the documents on which this report is based, proved invaluable. I would also like to thank Mr. Surendra Shrestha and Mrs. Priya Trosuwan for their smooth logistic arrangements.

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Sampurno Bruijnzeel

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*Photographs by the senior author unless indicated otherwise

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