

PREFACE

For the past decade, scientists around the Pacific Rim have periodically met to discuss the state of erosion and sedimentation research related to steeplands. Each of these symposia differed in emphasis, but all focused on landscapes and conditions characteristic of the Pacific Rim: steep and tectonically active areas comprising a wide range of rock types, and which are subject to heavy rainfall, volcanic activity, and earthquakes. This landscape is often unstable, and natural erosion and sediment disasters are common. The influence of land-use practices on the frequency and magnitude of such disasters is often a matter of great legal and technical controversy.

The 1990 International Symposium on Research Needs and Applications to Reduce Erosion and Sedimentation in Tropical Steeplands is the fifth in an unofficial series that began with the 1981 Symposium on Erosion and Sediment Transport in Pacific Rim Steeplands, held in Christchurch, New Zealand (IASH-AISH Publication No. 132). In 1984, the topic was revisited with the Symposium on Effects of Forest Land Use on Erosion and Slope Stability, held in Honolulu, Hawaii. The Proceedings were published by the Environment and Policy Institute, East-West Center, and the New Zealand Forest Service. The third in the series was the 1985 Symposium on Erosion Debris Flow and Disaster Prevention, held in Tsukuba, Japan. The Proceedings were published by the Erosion-Control Engineering Society of Japan. And, in 1987, the Symposium on Erosion and Sedimentation in the Pacific Rim was held in Corvallis, Oregon, USA (IAHS Publication No. 165).

Although the Pacific Rim includes areas in all climatic zones, most of the research and experience related to erosion and sedimentation in steepland areas is concentrated in the temperate regions of the world. World-wide interest has recently been focussed on tropical deforestation. Over 5 million hectares of tropical forests are cleared every year. Although not all forest conversions are environmentally harmful, the rapid large-scale removal of forests and their replacement with exploitive land uses can have serious erosion and sedimentation consequences that can significantly degrade the long-term productivity of the land and waterways. Yet, comparatively little experimental work has been carried out under tropical conditions. For example, a count of the papers published in the proceedings of the four Pacific Rim erosion and sedimentation symposia held during the 1980's reveals that only 5 percent of the 253 papers reported on work conducted in the tropics.

In 1987, the Taiwan Forestry Research Institute and the East-West Center convened a workshop in Taipei to discuss future directions for watershed research in the Asia-Pacific region. The 57 research and management professionals from 16 countries concluded that there is an urgent need to expand erosion and sedimentation research in the tropics, to assess the transferability of research methods and results developed in temperate regions, and to introduce practical methods of evaluating and reducing

erosion and sedimentation in the tropics. Planning for the 1990 Fiji Symposium began at this workshop, due to a great extent to the enthusiasm of Peter Drysdale, formerly with the Fiji Pine Commission.

The response to our call for papers for the 1990 Fiji Symposium was overwhelming. The organizing committee finally selected 38 papers and 12 posters for presentation. These papers report original work conducted in 26 countries, and the senior authors represent 22 different countries. Consequently, the papers prepared for this symposium represent an excellent review of the state-of-the-art of erosion and sedimentation research in tropical environments throughout the world.

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