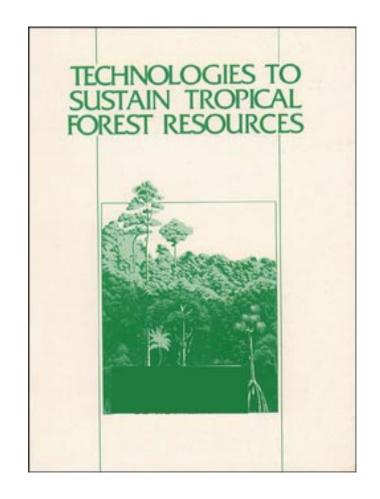
Technologies To Sustain Forest Resources

March 1984

OTA-F-515 NTIS order #PB92-182104



Recommended Citation:

Technologies to Sustain Tropical Forest Resources (Washington, D. C.: U.S. Congress, Office of Technology Assessment, OTA-F-214, March 1984).

Library of Congress Catalog Card Number 84-601018

For sale by the Superintendent of Documents U.S. Government Printing Office, Washington, D.C. 20402

Foreword

The United States has a stake in the sustained economic development of tropical nations for humanitarian, political, and economic reasons. To a great extent, the development of these nations depends on increasing production from their potentially renewable soil, forest, and water resources. But tropical forest resources, which cover nearly one-half of the tropical nations' land, are being consumed at a rate that may make them nonrenewable. They are exploited for timber and cleared for pasture and cropland with little regard for their abilities to produce—in a long-term sustainable fashion—important goods, maintain soil productivity, regulate water regimes, or regenerate themselves. Much of the recent deforestation occurs where the new land uses cannot be sustained and it causes productivity losses that tropical nations and the world can ill afford.

International recognition of the importance of tropical forests, and efforts to sustain the productivity of these resources, have increased significantly in the last decade. In 1980, the House of Representatives Committee on Foreign Affairs, Subcommittee on International Organizations, held hearings on tropical deforestation. The committee then requested the Office of Technology Assessment (OTA) to conduct a more thorough assessment of the problem, the technologies that could help sustain tropical forest resources, and possible options for Congress. The Subcommittee on Insular Affairs of the House Committee on Interior and Insular Affairs and the Subcommittee on Environmental Pollution of the Senate Committee on Public Works endorsed the request. The Senate Committee on Energy and Natural Resources asked that the assessment specifically address forest resources of the U.S. insular territories in the Caribbean and western Pacific. The report and its two background papers (Reforestation of Degraded Lands and U.S. and International Institutions) identify and discuss in-depth some of the constraints and opportunities to develop and implement forest-sustaining technologies.

OTA greatly appreciates the contributions of the advisory panel and workshop participants assembled for the study, the authors of the commissioned technical papers, and the many others who assisted us, including liaisons from other Government agencies. As with all OTA studies, however, the content of the report is the sole responsibility of OTA.

Technologies to Sustain Tropical Forest Resources Advisory Panel

Leonard Berry, Panel Chairman Center for Technology, Environment, and Development Clark university

Eddie Albert Conservationist

Hugh Bollinger Vice President Native Plants, Inc.

Robert Cassagnol Technical Committee

CONAELE

Robert Cramer Former President Virgin Islands Corp.

Gary Eilerts

Appropriate Technology International

John Ewel

Department of Botany University of Florida

Robert Hart

Winrock International

Susanna Hecht

Department of Geography University of California

Marilyn Hoskins

Department of Sociology Virginia Polytechnic Institute

John Hunter*

Michigan State University

Norman Johnson

Vice President, North Carolina Region

Weyerhaeuser Co.

Jan Laarman

Department of Forestry

North Carolina State University

Charles Lankester

U.N. Development Programme

Robert Owen

Chief Conservationist (retired)
Trust Territory of the Pacific IsZands

Christine Padoch

Institute of Environmental Studies

University of Wisconsin

Allen Putney ENCAMP West Indies Lab

Jeff Romm

Department of Forestry University of California

John Terborgh

Department of Biology Princeton University

Henry Tschinkel

Regional Office for Central American Programs

Agency for International Development

U.S. Department of State

^{*}Resigned in July 1982.

OTA Staff on Technologies to Sustain Tropical Forest Resourses

H. David Banta* and Roger Herdman, * * Assistant Director, OTA Health and Life Sciences Division

Walter E. Parham, *Program Manager*Food and Renewable Resources Program

Analytical Staff

Susan Shen, Forester
Alison Hess, Resource Economist
Chris Elfring, Science Journalist
Eric Hyman, Environmental Planner***
Denise Toombs, Resource Policy Analyst***
Jim Kirshner, Resource Policy Analyst***
Bruce A. Ross-Sheriff, Geographer,
Project Director

Administrative Staff

Phyllis Balan, Administrative Assistant Nellie Hammond, Secretary Carolyn Swarm, Secretary

OTA Publishing Staff

John C. Holmes, *Publishing Officer*John Bergling Kathie S. Boss Reed Bundy Debra M. Datcher

Joe Henson Glenda Lawing Linda A. Leahy Cheryl J. Manning

^{*}Until August 1983.

^{**}From Dec. 26, 1983.

^{***}Temporary staff (4-month period).

Technology Transfer Workshop

Ron Stegall, Chairman Development Consultant Washington, D.C.

Anil Agarwal

Centre for Science and Environment

New Delhi, India
Jose Roberto Castillio
Farmer/Businessman

Mexico

Merrill Conitz

Agency for International Development

Nairobi, Kenya Robert Fishwick World Bank Washington, D.C.

Marilyn Hoskins

Virginia Polytechnic Institute

Blacksburg, Va.

Gerald Murray

Pan American Development Foundation

Haiti

Gunnar Poulsen

Tropical Forestry Consultant

Denmark

David Richards

Appropriate Technology International

Washington, D.C.

Skip Stiles

Office of Congressman George E. Brown, Jr.

Washington, D.C.

Systems Analysis Workshop

Donella H. Meadows, Chairwoman Resource Policy Center, Dartmouth College

Jeffrey Gritzner Board on Science and Technology for International Development National Academy of Sciences

Jeff Romm Department of Forestry University of California John Terborgh
Department of Biology
Princeton University

Frank Wadsworth
Institute of Tropical Forestry

Puerto Rico