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Tropical Forest Conservation and Development: A Bibliography
by Jean Albrecht, Forestry Library, University of Minnesota



Fog, moss, and epiphyte-enshrouded wet, virgin, tropical rain forest in
Los Rios Province, Ecuador.

Photo courtesy of Hugh H. Iltis

TROPICAL FOREST CONSERVATION AND DEVELOPMENT: A BIBLIOGRAPHY

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C

PREFACE

The literature relating to the conservation and sustainable development of tropical forests is interdisciplinary in nature. Because of this, there is no single index or abstracting service which fully covers the subject. The purpose of this bibliography is to pull together literature from the various disciplines.

The bibliography is arranged by broad subject areas and includes an author index.

All of the publications cited in the bibliography are in the collections of the University of Minnesota libraries. I decided that accessibility was an important factor and, therefore, did not include references to publications which, after reasonable efforts to do so, we were unable to obtain. Also, in the interest of accuracy of citation, I wanted to be able to see each publication cited. This decision led to the omission of some commonly cited publications. Loans or photocopies of all publications cited are available through the Interlibrary Loan Office, St. Paul Campus Libraries, 1984 Buford Avenue, St. Paul, MN 55108.

I am grateful to a number of people who helped me in a variety of ways in the preparation of this bibliography. I want to thank Patricia Rodkewich, my friend and colleague, who in her role as contributor to the *Social Sciences in Forestry*, provided many references for this bibliography. I also want to thank Cheryl Owens, my assistant in the Forestry Library, for her support and efforts in searching out and obtaining many of the publications referenced; Vicki Raffle, graduate student in the College of Natural Resources, for programming and computer support; Laura Hutchinson, library assistant, USFS North Central Forest Experiment Station, for data entry; Clara M. Schreiber, Department of Forest Resources, for word processing assistance; and Beth Wolszon, Book Acquisitions, St. Paul Campus Libraries, for her efforts to obtain many of the books cited. I am particularly grateful to Hans Gregersen, professor in the Department of Forest Resources, for his encouragement and involvement in this project. I couldn't have done it without them.

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FOREST RESOURCES



Adam, M., Billington, C., and Collins, M., 1990.

Tropical forests of Asia and the Pacific Rim. Cambridge, UK, IUCN and World Conservation Monitoring Centre. Map.

This map shows areas of tropical monsoon forests, tropical rain forests, and former monsoon and rain forests.

Adeyaju, S. K., 1974. Forest resources of Nigeria. Commonwealth Forestry Review 53(2):99-119.

3 Anat Arbhabhirama, Dhira Phantumvanit, Elkington, J. and Phaitoon Ingkasuwan, 1988. Forest resources. In: Thailand: Natural resources profile. New York, Oxford University Press. pp. 142-178.

Provides a general introduction to Thailand's inland forest resources.

4 Australian Heritage Commission, 1987. The rainforest legacy: Australian National Rainforests Study. Vol. 1: The nature, distribution and status of rainforest types. Canberra, Australian Government Publishing Service, Special Australian Heritage Publication Series no. 7(1). 344 pp.

Papers presented at a workshop held at Griffith University, Dec. 2-4, 1983.

5 Borota, J., 1989. Timber resources in Gabon. Acta Facultatis Forestalis Zvolen 31:159-177. Gives information on timber resources and their utilization.

6 Borota, J., 1991. Tropical forests: Some African and Asian case studies of composition and structure. New York, Elsevier. Developments in Agricultural and Managed-Forest Ecology vol. 22. 274 pp.

"This publication deals with solving the problems concerning the composition and structure of both natural and artificially established tropical forests." Types of worldwide forest formations and information on the importance of tropical forests as a source of timber are discussed.

7 Brazier, J. D., Hughes, J. F., and Tabb, C. B., 1976. Exploitation of natural tropical forest resources and the need for genetic and ecological conservation. In: Burley, J. and Styles, B. T., eds. Tropical trees: Variation, breeding and conservation. London, Academic Press. Linnean Society Symposium Series no. 2. pp. 1-10.

Discusses the extent, composition, and structure of the tropical forest, the tropical forest as a source of industrialized wood and pulpwood.

8 Brown, S. and Lugo, A. E., 1992. Aboveground biomass estimates for tropical moist forests of the Brazilian Amazon. Interciencia 17(1):8-18.

- 9 Brown, S., Gillespie, A. J. R., and Lugo, A. E., 1991.** Biomass of tropical forests of south and southeast Asia. *Canadian Journal of Forest Research* 21(1):111-117.
- 10 Bruenig, E. F., 1990.** Tropical forest resources. In: Furtado, J. I. et al., eds. *Tropical resources: Ecology and development*. New York, Harwood Academic Publishers. pp. 67-95.
Reprinted from *Resource Management and Optimization* 7:67-95.
- 11 Bruenig, E. F., 1990.** Tropical forest resources. *Resource Management and Optimization* 7(1-4):67-95.
- 12 Choong, E. T., Wirakusumak, R. S., and Achmadi, S. S., 1990.** Mangrove forest resources in Indonesia. *Forest Ecology and Management* 33/34:45-57.
- 13 Collins, M., editor, 1990.** *The last rain forests: A world conservation atlas*. New York, Oxford University Press. 200 pp.
Discusses some of the issues relating to rain forest conservation, pressures on the forests from logging, shifting cultivation, and cattle ranching, and concludes with a conservation strategy for the future. Includes maps of the past and present distribution of tropical forests worldwide.
- 14 Collins, N. M., Sayer, J. A., and Whitmore, T. C., editors, 1991.** *The conservation atlas of tropical forests: Asia and the Pacific*. New York, Simon and Schuster. 256 pp.
This is the first of a three volume series which will cover all of the main tropical regions. The first eleven chapters of this volume discuss regional issues. Chapters 12-29 give a detailed survey of each country. Accompanying the text are detailed maps.
- 15 Daryadi, L., 1978.** Indonesian forest resources. *Malaysian Forester* 41(2):118-120.
Paper presented at the ASEAN Seminar on Tropical Rainforest Management, Kuantan, Nov.7-10, 1977.
- 16 FAO Forestry Department, 1982.** Tropical hardwood resources. In; Oldeman, R. A. A., ed. *Tropical hardwood utilization: Practice and prospects*. The Hague, Martinus Nijhoff. pp. 27-31.
- 17 Food and Agriculture Organization, 1976.** *Forest resources in the Asia and Far East Region*. Rome, Food and Agriculture Organization. 100 pp.
- 18 Food and Agriculture Organization, 1948.** Forest resources of the world. *Unasylva* 2(4):161-182.
Presents the results of an inventory undertaken by FAO in 1947. Supplementary data was published in *Unasylva* 4(2):57-59.
- 19 Food and Agriculture Organization, 1966.** The forest resource. *Unasylva* 21(80-81):46-67 + map.

- 20 Food and Agriculture Organization and U.N. Environment Programme, 1981.** Tropical forest resources assessment project (in the framework of the Global Environment Monitoring System - GEMS). Forest resources of tropical Asia. Rome, FAO, UN 32/6.1301-78-04, Technical Report no. 3. 475 pp.
Part 1 is a regional synthesis by J. P. Lanly and Y. S. Rao. Part 2 includes 16 country briefs.
- 21 Food and Agriculture Organization and U.N. Environment Programme, 1981.** Tropical forest resources assessment project (in the framework of the Global Environment Monitoring System - GEMS). Forest resources of tropical Africa. Rome, FAO, UN 32/6.1301-78-04, Technical Report no. 2. 2 vols. (108 pp., 586 pp.)
Vol. 1 is a regional synthesis; Vol. 2, entitled country briefs, contains more detailed information for 36 countries. The synthesis and each country brief reviews the present situation of forest resources and their trends in relation to natural woody vegetation and plantations.
- 22 Food and Agriculture Organization, 1979.** Tropical hardwood resources. Seminar on the Utilization of Tropical Hardwoods, Amsterdam, May 15-18, 1979. United Nations, Economic Commission for Europe, Timber Committee, TIM/SEM.8/R.6. 5 pp.
- 23 Food and Agriculture Organization, 1966.** World forest inventory, 1963. [Rome] Food and Agriculture Organization. 113 pp.
The fourth in a series of publications covering forest resources of the world.
- 24 Food and Agriculture Organization, 1955.** World forest resources: Results of the inventory undertaken in 1953 by the Forestry Division of FAO. Rome, Food and Agriculture Organization. 120 pp.
Presents the results of the second FAO inventory of world forest resources. The first was conducted in 1947/48.
- 25 Food and Agriculture Organization, 1960.** World forest inventory, 1958. Rome, Food and Agriculture Organization. 137 pp.
The third in a series compiled by the Forestry and Forest Products Division of FAO.
- 26 Food and Agriculture Organization, 1985.** World forest resources, 1980. [Rome] Food and Agriculture Organization. [22] pp.
Cover title: Forest resources, 1980.
- 27 Food and Agriculture Organization, 1981.** [Tropical forest resources assessment project (in the framework of GEMS): Forest resources of tropical America.] Rome, FAO, UN 32/6.1301-78-04, Technical Report no. 1. 86 pp., 343 pp. (Microfiche)
In Spanish.
- 28 Galvao, A. P. M., 1981.** Present status of forest resources in the tropics and problems in forestation and afforestation: Present situation in Central and South America. In: 17th IUFRO World Congress, Kyoto, 1981: Proceedings, Interdivisional. Ibaraki, Japanese IUFRO Congress Committee; Vienna, IUFRO Secretariat. pp. 73-78.

- 29 Grainger, A., 1984.** Quantifying changes in forest cover in the humid tropics: Overcoming current limitations. *Journal of World Forest Resource Management* 1(1):3-63.
The objectives of this paper are: (1) to provide critical estimates of the total extent of the tropical moist forests and the rate of deforestation; and (2) to propose ways by which the monitoring of deforestation may be improved by using remote sensing techniques. (p. 3)
- 30 Haden-Guest, S., Wright, J. K., and Teclaff, E. M., editors, 1956.** A world geography of forest resources. New York, Ronald Press. 736 pp.
Includes chapters on the forest resources of Middle America, by L. R. Holdridge; South America, by W. R. Barbour; Tropical Africa, by A. M. A. Aubreville; India, by M. D. Chaturvedi; Ceylon, by R. W. Szechowycz; Southeast Asia, by R. Sewandono; the Philippines, by F. Tamesis; and Oceania, by F. E. Egler.
- 31 Harpole, G. B., 1991.** Forest resources. In: Maeglin, R. R., ed. *Forest products from Latin America: An almanac of the state of the knowledge and the state of the art.* U.S. Forest Service, General Technical Report FPL-GTR-67. pp. 9-15.
Discusses the resources in natural forests, secondary forests, and forest plantations in Latin America.
- 32 Joshi, S. C., 1986.** Forestry handbook of Bhutan. Dehra Dun, India, International Book Distributors. 145 pp.
Includes information on forest resources.
- 33 Laarman, J. G. and Sedjo, R. A., 1992.** Global forests: Issues for six billion people. New York, McGraw Hill. 337 pp.
Includes a section on global forest cover and trends.
- 34 Lamb, F. B., 1969.** Tropical American forest resources. In: *Proceedings Conference on Tropical Hardwoods, Aug. 18-21, 1969.* Syracuse, N.Y., State University College of Forestry at Syracuse University. 25 pp.
- 35 Lanly, J. P. and Clement, J., 1979.** Present and future natural forest and plantation areas in the tropics. *Unasylva* 31(123):12-20.
This article is derived from a document issued by FAO in May 1979 entitled "Present and future forest and plantation areas in the tropics."
- 36 Lanly, J. P. and Clement, J., 1982.** Present and future forest and plantation areas in the tropics. In: Oldeman, R. A. A., ed. *Tropical hardwood utilization: Practice and prospects.* The Hague, Martinus Nijhoff. pp. 47-92.
- 37 Lanly, J. P., 1983.** Assessment of the forest resources of the tropics. *Forestry Abstracts* 44(6):287-318.
A review article describing the work of the FAO/UNEP Tropical Forest Resources Assessment Project. Estimates are given for areas of various categories of forests and plantations and for rates of deforestation and planting.

- 38 Lanly, J. P., Singh, K. D., and Janz, K., 1991.** FAO's 1990 reassessment of tropical forest cover. *Nature and Resources* 27(2):21-26.
Describes the general methodology used by FAO for its 1990 reassessment of the world's tropical forests.
- 39 Lanly, J. P., 1985.** Forest resources of South East Asia: Results from the FAO/UNEP Tropical Forest Resources Assessment Project. In: Davidson, J. et al., eds. *The future of tropical rain forests in South East Asia*. Gland, Switzerland, IUCN Commission on Ecology Papers no. 10. pp. 12-16.
- 40 Lanly, J. P., 1983.** Present situation and evaluation of tropical forest resources. *Mazingira* 7(4):2-15.
Discusses the results of the 1978 FAO/UNEP Tropical Forest Resources Assessment Project.
- 41 Lanly, J. P., 1991.** The status of tropical forests. In: Pyatt, N. and Williams, J., eds. *Tropical forestry: Third world priorities versus western concerns: Proceedings of the 1990 International Student Forestry Symposium, University of Wales, Jan., 1990*. Bangor, University of Wales. pp. 3-15.
Provides an assessment of tropical forest resources worldwide.
- 42 Lanly, J. P., 1982.** Tropical forest resources. Rome, Food and Agriculture Organization, FAO Forestry Paper no. 30. 106 pp.
This report presents forest resource data for 76 countries. Three other reports resulted from the Global Environment Monitoring System (GEMS) survey and covered the tropical areas of America, Africa, and Asia. This fourth report presents an overall synthesis for the tropical world.
- 43 Lau Buong Tiing, 1978.** Forest resources of Sarawak. *Malaysian Forester* 41(2):99-103.
Paper presented at the ASEAN Seminar on Tropical Rainforest Management, Kuantan, Nov. 7-10, 1977.
- 44 Mahmud, M. D. bin H., 1978.** Forest resources of Peninsular Malaysia. *Malaysian Forester* 41(2):82-93.
Paper presented at the ASEAN Seminar on Tropical Rainforest Management, Kuantan, Nov. 7-10, 1977.
- 45 Mahmud, M. D. bin H., 1982.** Forest resource situation, exploitation and wastage, especially in the tropical region. In: Srivastava, P. B. L., et al., eds. *Tropical forests: Source of energy through optimisation and diversification*. Serdang, Selangor, Malaysia, Penerbit Universiti Pertanian Malaysia. pp. 3-12.
- 46 Mather, A. S., 1990.** *Global forest resources*. London, Belhaven Press. 341 pp.
Includes a chapter on tropical forest resources.

- 47 Mather, A. S., 1987.** Global trends in forest resources. *Geography* 72(1):1-15.
 "Sources of data on the world's changing forest area are reviewed, and the present extent and dynamics of the forest area as indicated by FAO statistics, are mapped and discussed. The causes of deforestation are considered and recent expansion of plantation forests discussed." (p. 1)
- 48 Mok, S. T., 1990.** Changes in ASEAN timber resource. *Asian Timber* 9(1):27-29.
 The author discusses changes taking place in the ASEAN forest resource base, including the decline in forest area.
- 49 Molofsky, J., Hall, C. A. S., and Myers, N., 1986.** A comparison of tropical forest surveys. U.S. Dept. of Energy, DOE/NBB-0078. 66 pp.
 Compared two studies of tropical forest areas and rates of forest loss in order to identify and clarify discrepancies between them. The two studies were: Norman Myers' Conversion of Tropical Moist Forests (1980) and the FAO/UNEP Tropical Forest Resources Assessment Project (1981).
- 50 Munang, M., 1978.** Forest resources of Sabah. *Malaysian Forester* 41(2):94-98.
 Paper presented at the ASEAN Seminar on Tropical Rainforest Management, Kuantan, Nov. 7-10, 1977.
- 51 Mwangi, W., 1982.** The forest resource in Kenya in relation to other natural resources. In: Hallsworth, E. G., ed. *Socio-economic effects and constraints in tropical forest management*. New York, Wiley. pp. 131-141.
- 52 Nalampoon, A., 1978.** Forest resources in Thailand. *Malaysian Forester* 41(2):114-117.
 Paper presented at the ASEAN Seminar on Tropical Rainforest Management, Kuantan, Nov. 7-10, 1977.
- 53 Okoro, S. P. A., 1990.** Status of forest resources of Nigeria. In: *Development and management of forest resources of the arid zone of Nigeria*. Proceedings of the 20th annual conference of the Forestry Association of Nigeria, Katsina, Nov. 25-30, 1990. Ibadan, Forestry Association of Nigeria. pp. 3-12.
- 54 Olembo, R. J. and Ogambo-Ongoma, A. H., 1981.** The present situation of forest resources in tropical Africa and problems of reforestation and afforestation in the region. In: 17th IUFRO World Congress, Kyoto, 1981: Proceedings, Interdivisional. Ibaraki, Japanese IUFRO Congress Committee; Vienna, IUFRO Secretariat. pp. 63-71.
- 55 Persson, R., 1975.** Forest resources of Africa: An approach to international forest resource appraisals. Part I: Country descriptions. Stockholm, Skogshogskolan, Institutionen for Skogstaxering, Rapport och Uppsatser no. 18. 294 pp.
 This report describes the forest resources of all African countries. Maps are included.
- 56 Persson, R., 1977.** Forest resources of Africa: An approach to international forest resource appraisals. Part II: Regional analyses. Stockholm, Skogshogskolan, Institutionen for Skogstaxering, Rapport och Uppsatser no. 22. 224 pp.

- 57 Persson, R., 1974.** World forest resources: Review of the world's forest resources in the early 1970s. Stockholm, Skogshogskolan, Institutionen for Skogstaxering, Rapporter och Uppsatser no. 17. 261 pp. + 3 maps.
This report briefly describes the forest resources in Africa, Asia, Latin America, and the Pacific.
- 58 Persson, R., 1979.** World forest resources and trends. *Development Digest* 17(4):3-10.
Summarizes global data concerning area and location of forest lands, the volume of wood they contain, and current changes. Includes data for tropical forest resources.
- 59 Pringle, S. L., 1978.** Quantity and quality of the tropical forests. In: *Papers for Conference on Improved Utilization of Tropical Forests*, Madison, Wisconsin, May 21-26, 1978. U.S. Forest Products Laboratory. pp. 1-21.
- 60 Pringle, S. L., 1978.** Quantity and quality of the tropical forests. In: *Proceedings of Conference on Improved Utilization of Tropical Forests*, Madison, Wisconsin, May 21-26, 1978. U.S. Forest Products Laboratory. pp. 51-68.
- 61 Rao, Y. S., 1989.** Forest resources of tropical Asia. In: *Food and Agriculture Organization. Environment and agriculture: Environmental problems affecting agriculture in the Asia and Pacific Region: World Food Day Symposium*, Bangkok, Oct. 11, 1989. Bangkok, FAO RAPA. pp. 1-20.
Presents an overview of forest resources of 16 countries in the Asia-Pacific Region. Discusses the extent, causes, and consequences of deforestation.
- 62 Reid, E. S., 1975.** Tropical forest resources and potential. In: *Proceedings of the 66th Western Forestry Conference*, Vancouver, B.C., Dec. 1975. pp. 25-27.
The author concludes that "the world has vast resources of tropical hardwoods but that those forests are not contributing anywhere near their share to the world's woodfibre requirements." (p.26)
- 63 Reijneveld, A., 1983.** A comparison of various estimates of reforestation areas in the tropics. Wageningen, Stichting voor Nederlandse Bosbouw Ontwikkelings Samenwerking, BOS Document no. 1. 55 pp.
A comparison of various assessments of reforestation areas in the tropics conducted over the past 30 years, among them the FAO World Forest Inventory, 1947, 1953, 1958, and 1963.
- 64 Reyes, M. R., 1978.** Philippine forest resources. *Malaysian Forester* 41(2):104-113.
Paper presented at the ASEAN Seminar on Tropical Rainforest Management, Kuantan, Nov. 7-10, 1977.
- 65 Salleh, M. N. and Chan, H. T., 1988.** Mangrove forests in Peninsular Malaysia: An unappreciated resource. Kuala Lumpur, Forest Research Institute Malaysia, FRIM Reports 49:1-15.
Paper presented at the ENSEARCH Seminar on Marine Environment: Challenges and Opportunitites, Kuala Lumpur, Mar. 31-Apr. 2, 1988.

- 66 Salleh, M. N., 1981.** Present status of the rain forest resources of tropical Asia and problems of reforestation. In: 17th IUFRO World Congress, Kyoto, 1981: Proceedings, Interdivisional. Ibaraki, Japanese IUFRO Congress Committee; Vienna, IUFRO Secretariat. pp. 57-61.
- 67 Sargent, C., Sargent, O., and Parsell, R., 1985.** The forests of Bhutan: A vital resource for the Himalayas? *Journal of Tropical Ecology* 1(3):265-286.
Reports on a preliminary survey of forest resources in Bhutan taken in 1983.
- 68 Sedjo, R. A., 1987.** Forest resources of the world: Forests in transition. In: Kallio, M. et al., eds. *The global forest sector: An analytical perspective.* New York, Wiley. pp. 7-31.
Includes information on tropical forest resources.
- 69 Singh, A., 1986.** Assessment of tropical forest resources. *Myforest* 22(4):217-225.
Discusses the distribution of the world's tropical forests, characteristics of tropical forests, and deforestation.
- 70 Singh, K. D., 1987.** Concepts and methodology of tropical forest resources assessment (1990). In: Proceedings of Ad Hoc FAO/ECE/FINNIDA Meeting of Experts on Forest Resource Assessment, Kotka, Finland, 26-30 Oct. 1987. *Metsantutkimuslaitoksen Tiedonantoja* 284:37-49.
The objective of this paper is to present the concepts and methodology of the tropical forest resources assessment for 1990 as envisaged by FAO.
- 71 Singh, K. D., 1989.** The changing forest resources base. In: Proceedings of the Expert Consultation on Wood-Based Panels, Rome, Food and Agriculture Organization. pp. 67-74.
Discusses the current state and evolution of the tropical forest resource.
- 72 Singh, K. D., 1990.** The conceptual framework of FAO Forest Resources Assessment 1990 (within the framework of Tropical Forestry Action Plan). In: *Global natural resource monitoring and assessments: Preparing for the 21st century.* Proceedings of the international conference and workshop, Venice, 1989. Bethesda, MD, American Society for Photogrammetry and Remote Sensing. Vol. 2, pp. 517-523.
This paper presents an outline of the FAO Forest Resources Assessment Project designed to assess the state of forest resources in developing countries to the end of 1990, estimate changes 1981-1990, and trends to 2000.
- 73 Sommer, A., 1976.** Attempt at an assessment of the world's tropical moist forests. *Unasylva* 28(112/113):5-24.
Includes a map of the main vegetation zones of the world forests.
- 74 Sommer, A., 1976.** Attempt at a global appraisal of the tropical moist forests. [Rome] Food and Agriculture Organization, Committee on Forest Development in the Tropics, 4th session, Rome, Nov. 15-20, 1976. FO/FDT/76/4. 40 pp.

- 75 Stadelman, R. C., 1969.** Hardwood timber supply - Southeast Asia. In: Proceedings Conference on Tropical Hardwoods, Aug. 18-21, 1969. Syracuse, NY, State University College of Forestry at Syracuse University. 21 pp.
- 76 Steinlin, H. J., 1982.** Monitoring the world's tropical forests. *Unasyuva* 34(137):2-8.
Discusses the FAO/UNEP Forest Resources Assessment Project.
- 77 Thang, H. C., 1987.** Assessment of the forest resources of the ASEAN region and their management. In: Proceedings of Ad Hoc FAO/ECE/FINNIDA Meeting of Experts on Forest Resource Assessment, Kotka, Finland, 26-30 Oct., 1987. *Metsantutkimuslaitoksen Tiedonantoja* 284:423-433.
Discusses the forest resources of the ASEAN member countries: Brunei, Darussalam, Indonesia, Malaysia, Philippines, Singapore and Thailand.
- 78 Thang, H. C., 1990.** Can the existing wood resources in Malaysia meet future domestic requirements? *Malaysian Forester* 50(2):217-234.
Provides preliminary forecasts on roundwood production and domestic and industrial requirements of wood up to the year 2000, based on resource availability and assumed management regimes. (p. 218)
- 79 Thavivongse Sriburi, 1987.** Forest resources crisis in Thailand. In: Proceedings of the Conference on Forest Resources Crisis in the Third World, Penang, Malaysia, Sept. 6-8, 1986. Penang, Sahabat Alam Malaysia. pp. 93-129.
- 80 Thompson, D. A., Wright, D. L., and Evelyn, O., 1986.** Forest resources in Jamaica. In: Thompson, D. A. et al., eds. *Forests of Jamaica: Papers from the Caribbean Regional Seminar on Forests of Jamaica*, Kingston, 1983. Kingston, Jamaican Society of Scientists and Technologists. pp. 81-90.
- 81 Tran Van Nao, 1974.** Forest resources of humid tropical Asia. In: *Natural resources of humid tropical Asia*. Paris, Unesco, Natural Resources Research no. 12. pp. 197-215.
- 82 Truetner, K. L., 1969.** Tropical African forest resources timber supply. In: Proceedings Conference on Tropical Hardwoods, Aug. 18-21, 1969. Syracuse, NY, State University College of Forestry at Syracuse University. 21 pp.
- 83 Wadsworth, F. H., 1966.** Forest resources of the tropical world. In: Proceedings of the Sixth World Forestry Congress, Madrid, 1966. 3:3135-3143.
Discusses nature and location of tropical forests, area of tropical forests, and their present and future utilization.
- 84 White, K. J., 1972.** Forest resources of Papua New Guinea. *Commonwealth Forestry Review* 51(1):58-61.
- 85 Zon, R. and Sparhawk, W. N., 1923.** *Forest resources of the world*. New York, McGraw Hill. 2 vols, 997 pp.
Includes chapters on the forest resources of Asia, Central and South America, Africa, and Oceania. The final chapter covers nontimber forest products.

DEFORESTATION



86 Aiken, S. R. and Leigh, C. H., 1992. Vanishing rain forests: The ecological transition in Malaysia. Oxford, Clarendon Press. 194 pp.

The authors (1) describe the rain forest formations of the study area; (2) outline the processes and policies that have resulted in anthropogenic forest change in Malaysia over the past two centuries; (3) look at the environmental, biological, and human consequences of change; and (4) describe what has been done to conserve the region's forests.

87 Allen, J. C. and Barnes, D. F., 1985. The causes of deforestation in developing countries. *Annals of the Association of American Geographers* 75(2):163-184.

"Results indicate that in the short term, deforestation is due to population growth and agricultural expansion, aggravated over the long term by wood harvesting for fuel and export." (p. 163)

88 Anderson, A. B., 1990. Deforestation in Amazonia: Dynamics, causes, and alternatives. In: Anderson, A. B., ed. *Alternatives to deforestation: Steps toward sustainable use of the Amazon rain forest.* New York, Columbia University Press. pp. 3-23.

89 Anderson, A. B., 1990. Smokestacks in the rainforest: Industrial development and deforestation in the Amazon Basin. *World Development* 18(9):1191-1205.

This article examines the advent of charcoal-consuming industries in eastern Amazonia. "Because these industries will require enormous quantities of fuel from the native forest, their impacts on regional ecosystems are potentially severe." (p. 1192-92)

90 Anderson, D. and Fishwick, R., 1984. Fuelwood consumption and deforestation in African countries. Washington, DC, World Bank, World Bank Staff Working Papers no. 704. 52 pp.

This report reviews recent studies on the growth and consumption of fuelwood in Africa and on the economic, ecological, and social consequences of deforestation.

91 Anderson, D., 1986. Declining tree stocks in African countries. *World Development* 14(7):853-863.

This paper does not consider deforestation arising from industrial forestry, but rather, is concerned with losses in tree stocks in more densely populated farming areas.

- 92 Arnold, J. E. M., 1987.** Deforestation. In: McLaren, D. J. and Skinner, B. J., eds. Resources and world development. New York, Wiley. pp. 711-725.
Discusses the process and consequences of deforestation in the tropics, and reviews "some of the main underlying potentials for relieving excessive pressure on tropical forests..." (p. 721)
- 93 Aubreville, A. M. A., 1947.** The disappearance of the tropical forests in Africa. *Unasylva* 1(1):5-11.
- 94 Bajracharya, D., 1983.** Deforestation in the food/fuel context: Historical and political perspectives from Nepal. *Mountain Research and Development* 3(3):227-240.
"The thesis of this paper is that the primary cause of deforestation in Nepal is the clearing of forests to increase land for agriculture and fodder, and not, as generally assumed, the need for fuelwood." (p. 227)
- 95 Bangkok Bank Ltd., 1980.** Deforestation and economic loss. *Bangkok Bank Monthly Review* 21(6):199-204.
Discusses deforestation in Thailand.
- 96 Barbier, E., 1991.** Tropical deforestation. In: Pearce, D. et al. *Blueprint 2: Greening the world economy*. London, Earthscan. pp. 138-166.
Discusses the extent of tropical deforestation and stresses the importance of proper valuation of forest resources.
- 97 Barbier, E. B., Burgess, J. C., and Markandya, A., 1991.** The economics of tropical deforestation. *Ambio* 20(2):55-58.
The economic factors contributing to deforestation in Brazil, Indonesia, and Zaire are examined.
- 98 Barnes, R. F. W., 1990.** Deforestation trends in tropical Africa. *African Journal of Ecology* 28(3):161-173.
The purpose of this paper is to examine the phenomenon of deforestation in the Guinea-Congolian forests of tropical Africa using published data. The most important factors determining the rate of deforestation are discussed. Future trends of deforestation in African forests are predicted. (p. 162)
- 99 Barraclough, S. and Ghimire, K., 1990.** The social dynamics of deforestation in developing countries: Principal issues and research priorities. Geneva, United Nations Research Institute for Social Development, Discussion Paper no. 16. 40 pp.
- 100 Bautista, G. M., 1990.** The forestry crisis in the Philippines: Nature, causes, and issues. *Developing Economies* 28(1):67-94.
This paper discusses deforestation in the Philippines, the nature of the problem, and its causes. The roles of the state, the logging industry, and upland residents in deforestation are discussed.

- 101 Bedoya Garland, E., 1990.** [The causes of deforestation in the Peruvian Amazon.] Binghamton, NY, Institute for Development Anthropology. 63 pp.
In Spanish.
- 102 Bertrand, A., 1983.** [Deforestation in the dense forest zone of the Ivory Coast.] Bois et Forets des Tropiques 202:3-17.
In French, with English summary.
- 103 Bethel, J. S., 1989.** Tropical deforestation. In: Forestry and the world around it: Proceedings of the 1989 Western Forestry Conference, Sacramento, CA, Dec. 3-6, 1989. Portland, OR, Western Forestry and Conservation Association. pp. 10-14.
- 104 Biswas, M. R. and Biswas, A. K., 1985.** The shrinking forests: A threat to survival. Development and Cooperation 1985(3):23-25.
Discusses deforestation and the need to balance socio-economic pressures with reforestation objectives.
- 105 Bowonder, B. and Prasad, S. S. R., 1987.** Global forests: Another view. Futures 19(1):43-53.
"This article argues that deforestation poses much greater risks to tropical areas and to developing countries than to temperate areas and developed countries, and that much research must be done before the full impact and possible remedies can be assessed." (p. 43)
- 106 Bowonder, B., 1986.** Deforestation in developing countries. Journal of Environmental Systems 15(2):171-192.
Discusses the rate of and reasons for deforestation in developing countries and suggests possible solutions.
- 107 Bowonder, B., 1982.** Deforestation in India. International Journal of Environmental Studies 18(3-4):225-236.
Analyzes the causes of deforestation in India and its implications for economic development.
- 108 Brookfield, H. and Byron, Y., 1990.** Deforestation and timber extraction in Borneo and the Malay Peninsula: The record since 1965. Global Environmental Change 1(1):42-56.
- 109 Brosius, J. P., 1990.** After Duwagan: Deforestation, succession, and adaptation in Upland Luzon, Philippines. University of Michigan, Center for South and Southeast Asian Studies, Michigan Studies of South and Southeast Asia no. 2. 188 pp.
"It is clear that in upland Zambales swidden farming by Ayta has resulted in considerable deforestation." (p. 155)
- 110 Budowski, G., 1992.** Perceptions of deforestation in Tropical America: The last 50 years. In: Steen, H. K. and Tucker, R. P., eds. Changing tropical forests: Historical perspectives on today's challenges in Central and South America. [Durham, NC] Forest History Society. pp. 1-4.

- 111 Burns, D., 1986.** Runway and treadmill deforestation: Reflections on the economics of forest development in the tropics. London, IIED-Earthscan; Cambridge, IUCN Publications Service. IUCN/IIED Tropical Forest Policy Paper no. 2. 20 pp.
 "This paper sets out a single typology of development strategies, and discusses the economic principles which are applicable in each case." (p. iv.) Three modes of forest development are discussed: runway deforestation; treadmill deforestation; and forest-rich development.
- 112 Buschbacher, R. J., 1987.** Deforestation for sovereignty over remote frontiers. Case study no. 4: Government-sponsored pastures in Venezuela near the Brazilian border. In: Jordan, C. F., ed. Amazonian rain forest: Ecosystem disturbance and recovery. New York, Springer-Verlag, Ecological Studies vol. 60. pp. 46-57.
 Presents an example of development for frontier establishment near San Carlos de Rio Negro in the Amazon Territory of Venezuela.
- 113 Buschbacher, R. J., 1986.** Tropical deforestation and pasture development. *BioScience* 36(1):22-28.
 The author concludes that "the threat of widespread, irreversible deforestation is relatively low in the Amazon: Concern should be directed toward Central America and Asia." (p. 27)
- 114 Caulfield, C., 1982.** Tropical moist forests: The resource, the people, the threat. London, Earthscan. 67 pp.
 Includes chapters on tropical forest resources, the causes of deforestation and its effects on climate and on the people of the forest. The concluding chapter discusses "action and proposals."
- 115 Centeno, J. C., 1991.** The Latin American forest crisis. 2nd ed. Gland, Switzerland, WWF International. 11 pp.
 A WWF Discussion Paper on the destruction of the tropical forests of Latin America.
- 116 Chidumayo, E. N., 1989.** Land use, deforestation and reforestation in the Zambian copperbelt. *Land Degradation and Rehabilitation* 1(3):209-216.
 This study showed that between 1937 and 1984 41% of the woodland area in the Copperbelt of Zambia was lost. The major causes of this deforestation were fuelwood collection, cultivation and replacement of natural woodland with forest plantations.
- 117 Clarke, W. C., 1988.** A scientific look at rain forests in the face of development. In: Fiji's rainforests: Our heritage and future. Proceedings of 2nd National Conservation Congress, Suva, Fiji, June 9-10, 1988. Suva, National Trust for Fiji. Vol. 1, pp. 88-103.
 Discusses the processes and consequences of deforestation.
- 118 Clement, J., 1991.** [Deforestation in tropical countries: An evaluation.] In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area F, Part 1. *Revue Forestiere Francaise*, Hors Serie no. 7, pp. 44-50.
 In French.

- 119 Cline-Cole, R. A., Main, H. A. C., and Nichol, J. E., 1990.** On fuelwood consumption, population dynamics and deforestation in Africa. *World Development* 18(4):513-527.
This article examines a "commonly held belief," that there is a linear relationship between population growth, fuelwood consumption, and rates of fuelwood-induced deforestation.
- 120 Collins, J. L. and Painter, M., 1986.** Settlement and deforestation in Central America: A discussion of development issues. Worcester, MA, Clark University, International Development Program; Binghamton, NY, Institute for Development Anthropology. Cooperative Agreement on Human Settlements and Natural Resource Systems Analysis, Working Paper no. 31. 36 pp.
One aspect of settlement and deforestation in Central America is the conversion of forest to pasture associated with the expansion of the beef cattle industry.
- 121 Collins, J. L., 1986.** Smallholder settlement of tropical South America: The social causes of ecological destruction. *Human Organization* 45(1):1-10.
"This paper examines the relationship between social cycles of indebtedness and differentiation and cycles of ecological destruction and decline in three newly settled regions of Latin America." (p. 1)
- 122 Cowell, A., 1990.** The decade of destruction: The crusade to save the Amazon rain forest. New York, Henry Holt and Company. 215 pp.
Documents the destruction of the Amazon rain forest during the decade of the 1980s.
- 123 Dear, W., 1983.** Deforestation in southeastern Brazil. In: Tucker, R. P. and Richards, J. F., eds. *Global deforestation and the nineteenth-century world economy*. Durham, N.C., Duke University Press. pp. 50-67.
- 124 Denevan, W. M., 1988.** Causes of deforestation and forest and woodland degradation in tropical Latin America. In: Fortmann, L. and Bruce, J. W., editors. *Whose trees? Proprietary dimensions of forestry*. Boulder, Westview Press. pp. 168-171.
Excerpted from the author's report of the same title to the Office of Technology Assessment, July 16, 1982.
- 125 Denevan, W. M., 1973.** Development and the imminent demise of the Amazon rain forest. *Professional Geographer* 25(2):130-135.
Discusses the causes and consequences of deforestation in the Amazon rainforest.
- 126 Denevan, W. M., 1981.** Swiddens and cattle versus forest: The imminent demise of the Amazon rain forest reexamined. In: Sutlive, V. H. et al., eds. *Where have all the flowers gone? Deforestation in the Third World*. Williamsburg, VA, College of William and Mary, Dept. of Anthropology, Studies in Third World Societies Publication no. 13. pp. 25-44.
The author updates his paper, presented in 1973, entitled "Development and the Imminent Demise of the Amazon Rain Forest." He focuses on the causes of forest destruction.

- 127 Denevan, W. M., 1978.** The causes and consequences of shifting cultivation in relation to tropical forest survival. In: *The role of geographical research in Latin America: Proc., Int. Cong. of Latin Americanist Geographers, Paipa, Colombia, Aug. 8-12, 1977.* Muncie, IN, Ball State Univ., Conference of Latin Americanist Geographers Publication no. 7. pp. 67-81.
The objectives are: "to (1) examine the causes of shifting cultivation in order to provide some insight into how its destructiveness can be minimized; (2) to examine the basic types of shifting cultivation in terms of their impact on tropical forest ecosystems; and (3) to relate shifting cultivation to livestock production as the greater ultimate cause of forest destruction." (p. 68)
- 128 Downing, T. E., Hecht, S. B., Pearson, H. A., and Garcia-Downing, C., editors, 1992.** *Development or destruction: The conversion of tropical forest to pasture in Latin America.* Boulder, Westview Press. 405 pp.
The papers in this volume examine the ecological, economic, and social costs of the conversion of forests to pastures.
- 129 Drennon, C., 1990.** Human settlement in tropical reserves: A look at a recent phenomenon. *Western Wildlands* 16(1):12-15.
"This article chronicles an attempt to understand the encroachment of settlers in Uganda, where two percent of the country's forests have been destroyed in the past 15 years." (p. 12)
- 130 Dudley, N., 1985.** *The death of trees.* London, Pluto Press. 133 pp.
Discusses the social and political factors causing the destruction of forests throughout the world, including the tropics.
- 131 Enabor, E. E., 1986.** Socio-economic factors of deforestation in Nigeria. In: Oguntala, A.B., ed. *The challenge of deforestation in Nigeria: Proceedings of the 16th annual conference of the Forestry Association of Nigeria, Dec. 7-11, 1986.* Ibadan, Forestry Association of Nigeria. pp. 111-125.
- 132 Eyre, L. A., 1987.** Jamaica: Test case for tropical deforestation? *Ambio* 16(6):338-343.
A survey of humid tropical forests in Jamaica carried out by the author in 1986, indicates a 3.3 percent per annum rate of deforestation for 1980-1986.
- 133 Fearnside, P. M. and Salati, E., 1985.** Explosive deforestation in Rondonia, Brazil. *Environmental Conservation* 12(4):355-356.
- 134 Fearnside, P. M., 1987.** Causes of deforestation in Brazilian Amazon. In: Dickinson, R. E., ed. *The geophysics of Amazonia: Vegetation and climate interactions.* New York, Wiley. pp. 37-61.
- 135 Fearnside, P. M., 1989.** Deforestation in Brazilian Amazonia: The rates and causes of forest destruction. *Ecologist* 19(6):214-218.
- 136 Fearnside, P. M., 1982.** Deforestation in the Brazilian Amazon: How fast is it occurring? *Interciencia* 7(2):82-88.

- 137 Fearnside, P. M., 1987.** Deforestation and international economic development projects in Brazilian Amazonia. *Conservation Biology* 1(3):214-221.
"International economic development projects speed deforestation in Brazil's Amazon region." (p. 214)
- 138 Fearnside, P. M., 1990.** Deforestation in Brazilian Amazonia. In: Woodwell, G. M., ed. *The earth in transition: Patterns and processes of biotic impoverishment*. New York, Cambridge University Press. pp. 211-238.
Estimates the rate of deforestation in the Brazilian Amazon and discusses the causes and consequences of deforestation.
- 139 Fearnside, P. M., 1990.** Environmental destruction in the Brazilian Amazon. In: Goodman, D. and Hall, A., eds. *The future of Amazonia: Destruction or sustainable development?* London, Macmillan. pp. 179-225.
Discusses the extent and impacts of deforestation. Discusses lumbering and slash-and-burn agriculture as causes of deforestation, and policies for sustainable development.
- 140 Fearnside, P. M., 1984.** Land clearing behaviour in small farmer settlement schemes in the Brazilian Amazon and its relation to human carrying capacity. In: Chadwick, A. C. and Sutton, S. L., eds. *Tropical rain-forest: The Leeds Symposium*. Leeds, U.K., Leeds Philosophical and Literary Society. pp. 255-271.
Discusses one of the causes of deforestation, the clearing of land by small farmers for agriculture.
- 141 Fearnside, P. M., 1983.** Land-use trends in the Brazilian Amazon region as factors in accelerating deforestation. *Environmental Conservation* 10(2):141-148.
Land-intensive uses such as cattle ranching, charcoal extraction and timber extraction result in rapid deforestation or heavy disturbance of vast areas.
- 142 Fearnside, P. M., 1986.** Spatial concentration of deforestation in the Brazilian Amazon. *Ambio* 15(2):74-81.
"Deforestation in the Brazilian Amazon is rapid and highly concentrated. Increase in cleared areas is dominated by immigration to colonization areas such as Rondonia." (p. 81)
- 143 Fearnside, P. M., 1989.** The charcoal of Carajas: A threat to the forests of Brazil's eastern Amazon region. *Ambio* 18(2):141-143.
"Brazil's Grande Carajas Program threatens to consume large areas of tropical forest in the eastern Amazon region as raw material for charcoal to be used in smelting pig-iron." (p. 141)
- 144 Fearnside, P. M., 1990.** The rate and extent of deforestation in Brazilian Amazonia. *Environmental Conservation* 17(3):213-226.

- 145 Fernandes, W., Menon, G., and Viegas, P., 1988.** Forests, environment and tribal economy: Deforestation, impoverishment and marginalisation in Orissa. New Delhi, Indian Social Institute. 363 pp.
Looks at the causes and consequences of deforestation and suggests solutions.
- 146 Fonseca, G. A. B. da, 1985.** The vanishing Brazilian Atlantic forest. *Biological Conservation* 34(1):17-34.
This study examines the rates and extent of the deforestation process in the Mata and Rio Doce regions of the Atlantic forest in the state of Minas Gerais, Brazil.
- 147 French, D., 1986.** Confronting an unsolvable problem: Deforestation in Malawi. *World Development* 14(4):531-540.
The author concludes: "Given the price of fuelwood, government cannot reverse deforestation; given the price of fuelwood, farmers will not reverse deforestation; little or nothing can be done about the price of fuelwood; therefore, deforestation cannot be reversed."
- 148 Frohn, R. C., Dale, V. H., and Jimenez, B. D., 1990.** Colonization, road development and deforestation in the Brazilian Amazon Basin of Rondonia. U.S. Oak Ridge National Laboratory, ORNL/TM-11470. 82 pp.
"This paper contains a historical summary of colonization and road construction in the Amazon Basin of Brazil relative to deforestation in Rondonia." (p. 2)
- 149 Furstenberg, P. F. von, 1990.** A review of tropical deforestation: Development policy and forest research. In: Palo, M. and Mery, G., eds. *Deforestation or development in the Third World*. Vol. III. Metsantutkimuslaitoksen Tiedonantoja no. 349; *Scandinavian Forest Economics* no. 32. pp. 103-109.
- 150 Gadgil, M., 1990.** India's deforestation: Patterns and processes. *Society and Natural Resources* 3(2):131-143.
- 151 Ganapin, D. J., Jr., 1987.** Forest resources and timber trade in the Philippines. In: *Proceedings of the Conference on Forest Resources Crisis in the Third World*, Penang, Malaysia, Sept. 6-8, 1986. Penang, Sahabat Alam Malaysia. pp. 54-70.
Discusses the causes and effects of tropical deforestation in the Philippines.
- 152 Gentry, A. H. and Vasquez, R., 1988.** Where have all the Ceibas gone? A case history of mismanagement of a tropical forest resource. *Forest Ecology and Management* 23(1):73-76.
An account of uncontrolled exploitation of Ceiba trees in the Peruvian Amazon from 1975-1983.
- 153 Gerstin, J., 1990.** No condition permanent: The rainforests of Africa. In: Head, S. and Heinzman, R., eds. *Lessons of the rainforest*. San Francisco, Sierra Club Books. pp. 78-91.
Discusses some of the causes of forest destruction in Africa.

- 154 Gester, M., 1989.** Power plants and politics in Brazil. *Development and Change* 14(3):6-8.
A discussion of some of the causes of forest destruction in the Amazon.
- 155 Giliomee, J. H., 1982.** The disappearance of the tropical rain forest. *Journal of Dendrology* 2(1&2):50-54.
Discusses the destruction of the forests and its consequences.
- 156 Gillis, M. and Repetto, R., 1988.** Deforestation and government policy. San Francisco, International Center for Economic Growth, Occasional Papers no. 8. 34 pp.
"The central conclusion of the paper is that ill-conceived government policies are a major reason for the deforestation of the world's tropical forests." (p. 3.) Six major policy problems are cited as being responsible for this, the most fundamental being the overvaluing of exploitation of forests and the undervaluing of their conservation.
- 157 Gilmour, D. A., 1988.** Not seeing the trees for the forest: A re-appraisal of the deforestation crisis in two hill districts of Nepal. *Mountain Research and Development* 8(4):343-350.
The author challenges "the commonly accepted orthodoxy of widespread and disastrous deforestation in the hills of Nepal." (p. 343)
- 158 Gomez-Pompa, A., Vazquez-Yanes, C., and Guevara, S., 1972.** The tropical rain forest: A nonrenewable resource. *Science* 177(4051):762-765.
The authors argue that the rain forest does not have the capacity to regenerate under present land use practices.
- 159 Goodland, R., 1991.** Tropical deforestation: Solutions, ethics and religions. World Bank Environment Working Paper no. 43. 57 pp.
Discusses the ethical implications of deforestation as well as some solutions to the problem. Suggested solutions include: improvements in incentives; improvements in conservation units; changes in colonization; timber and road projects; and reduction of population growth.
- 160 Goodland, R. J. A. and Irwin, H. S., 1975.** Amazon Jungle: Green hell to red desert? An ecological discussion of the environmental impact of the highway construction program in the Amazon Basin. New York, Elsevier. *Developments in Landscape Management and Urban Planning* vol. 1. 155 pp.
Includes a section on deforestation and agriculture. Reprinted from *Landscape Planning* 1(2/3):123-254.
- 161 Grainger, A., 1983.** Improving the monitoring of deforestation in the humid tropics. In: Sutton, S. L. et al., eds. *Tropical rain forest: Ecology and management*. Oxford, Blackwell. British Ecological Society Special Publication no. 2. pp. 387-395.
Includes a table showing areas of tropical moist forests in 1980 and average annual rates of deforestation, 1976-1980.
- 162 Grainger, A., 1990.** Modelling deforestation in the humid tropics. In: Palo, M. and Mery, G., eds. *Deforestation or development in the Third World?* Vol. III. *Metsantutkimuslaitoksen Tiedonantoja* no. 349; *Scandinavian Forest Economics* no. 32. pp. 51-67.

- 163 Grainger, A., 1980.** The state of the world's tropical forests. *Ecologist* 10(1/2):6-54.
Discusses the rate and types of deforestation, the threats to the forests from shifting cultivation, logging, and the wildlife trade, and from the trade in tropical logs.
- 164 Griffin, D. M., Shepherd, K. R., and Mahat, T. B. S., 1988.** Human impact on some forests of the middle hills of Nepal: Part 5. Comparisons, concepts and some policy implications. *Mountain Research and Development* 8(1):43-52.
Discusses deforestation in Nepal.
- 165 Guppy, N., 1984.** Tropical deforestation: A global view. *Foreign Affairs* 62(4):928-965.
A general overview of the problem of deforestation of rainforest lands.
- 166 Hall, A. L., 1989.** Developing Amazonia: Deforestation and social conflict in Brazil's Carajas programme. New York, Manchester University Press. 303 pp.
The focus of this study "is an examination of the combined impact upon the people and the environment of the region which has resulted from the programme's huge and distinctive pattern of industrial, agricultural and infrastructural investments." (p. xix)
- 167 Hamilton, A. C., 1984.** Deforestation in Uganda. Nairobi, Oxford University Press. [95] pp.
The author traces the destruction of Uganda's forests from the first introduction of agriculture down to the appropriation of national forest reserves by private individuals during the 1970s and 1980s.
- 168 Hartshorn, G. S., 1982.** Take the profits and run. *Garden* 6(1):25-31.
Discusses deforestation and destruction of the Amazon forests and its consequences.
- 169 Hayes, R., 1987.** Tropical deforestation in Central America: The hamburger connection. In: *Proceedings of the Conference on Forest Resources Crisis in the Third World, Penang, Malaysia, Sept. 6-8, 1986.* Penang, Sahabat Alam Malaysia. pp. 378-384.
- 170 Hecht, S., 1983.** Cattle ranching in the eastern Amazon: Environmental and social implications. In: Moran, E. F., ed. *The dilemma of Amazonian development.* Boulder, Westview Press. pp. 155-188.
"This paper explores the magnitude of forest clearing and emphasizes that ranching is the predominant use of converted areas." (p. 155)
- 171 Hecht, S. B. and Cockburn, A., 1989.** The fate of the forest: Developers, destroyers, and defenders of the Amazon. New York, Verso. 266 pp.
- 172 Hecht, S. B., 1992.** Logics of livestock and deforestation: The case of Amazonia. In: Downing, T. E. et al., eds. *Development or destruction: The conversion of tropical forest to pasture in Latin America.* Boulder, Westview Press. pp. 7-25.
"Conversion of forest to pasture is a logical process for both large and small scale owners, but the logic requires understanding the deficiencies of many of the current models of explaining deforestation...." (p. 7)

- 173 Hecht, S. B., 1989** The sacred cow in the green hell: Livestock and forest conversion in the Brazilian Amazon. *Ecologist* 19(6):229-234.
Discusses the fact that the majority of deforestation in the Amazon is caused by pasture development.
- 174 Hira Jhamtani and Emmy Hafid, 1987.** Forest resources: The problems faced. In: Proceedings of the Conference on Forest Resources Crisis in the Third World, Penang, Malaysia, Sept. 6-8, 1986. Penang, Sahabat Alam Malaysia. pp. 71-80.
Discusses the causes of forest destruction in Indonesia.
- 175 Hirsch, P., 1987.** Deforestation and development in Thailand. *Singapore Journal of Tropical Geography* 8(2):129-138.
- 176 Hofstad, O., 1990.** Tropical forests as non-renewable resources: The theory of optimal exploitation. In: Palo, M. and Mery, G., eds. Deforestation or development in the Third World. Vol. III. Metsantutkimuslaitoksen Tiedonantoja no. 349; Scandinavian Forest Economics no. 32. pp. 133-143.
"In certain cases tropical rain forests can be considered non-renewable in practical terms." (p. 133)
- 177 Hosier, R. H., 1988.** The economics of deforestation in eastern Africa. *Economic Geography* 64(2):121-136.
"This paper reviews the literature on deforestation paying particular attention to its relevance to the countries of eastern Africa." (p. 121)
- 178 Houghton, R. A., Lefkowitz, D. S., and Skole, D. L., 1991.** Changes in the landscape of Latin America between 1850 and 1985. 1. Progressive loss of forests. *Forest Ecology and Management* 38(3-4):143-172.
"In 1980, the rate of deforestation in Latin America, where the largest area of tropical forest remains, was greater than in any other region. This paper is an attempt to reconstruct changes in the landscape of Latin America between 1850 and 1985." (p. 144)
- 179 Houghton, R. A., 1990.** Projections of future deforestation and reforestation in the tropics. In: Proceedings of the Conference on Tropical Forestry Response Options to Global Climate Change, Sao Paulo, Brazil, Jan. 9-11, 1990. U.S. Environmental Protection Agency, Office of Policy Analysis. pp. 87-92.
Five projections of changes in the area of tropical forests to the year 2100 are described.
- 180 Huguet, L., 1983.** Replenishing the world's forests: The future of the world's tropical forests. *Commonwealth Forestry Review* 62(3):195-200.
An FAO/UNEP study estimates the rate of destruction or degradation of the world's tropical forests at "within the range of 0.58% and 0.32% per year." "The author submits that the main cause of tropical forests destruction is not commercial, export oriented exploitation, but the primitiveness of agriculture and grazing...." (p. 195)

- 181 Hurrell, A., 1991.** The politics of Amazonian deforestation. *Journal of Latin American Studies* 23(1):197-215.
- 182 Hurst, P., 1987.** Forest destruction in South East Asia. *Ecologist* 17(4/5):170-174.
 "There is no one single cause of forest destruction. Rather it is the direct result of the type of "development" model that has been promoted in the Third World." (p. 174)
- 183 Hurst, P., 1990.** Rainforest politics: Ecological destruction in South-East Asia. Atlantic Highlands, NJ, Zed Books. 303 pp.
 Discusses forest destruction in Indonesia, Malaysia, Papua New Guinea, the Philippines, and Thailand. Four major processes are blamed for the forest destruction: Shifting agriculture, tropical timber extraction, government sponsored transmigration schemes, and large-scale development projects.
- 184 Iltis, H. H., 1985.** Tropical forests: What will be their fate? In: Southwick, C.H., editor. *Global ecology*. Sunderland, MA, Sinauer Assoc. Inc. pp. 224-230.
 Discusses the destruction of tropical forests. Reprinted from *Environment* 25(10):55-60, 1983.
- 185 Iltis, H. H., 1983.** Tropical forests: What will be their fate? *Environment* 25(10):55-60.
 Discusses the destruction of tropical forests and its consequences.
- 186 Ives, J. and Pitt, D. C., editors, 1988.** Deforestation: Social dynamics in watersheds and mountain ecosystems. New York, Routledge. 247 pp.
 The focus of the contributions in this collection is not on tropical deforestation but on deforestation in mountain ecosystems which may have tropical elements.
- 187 Joly, L. G., 1989.** The conversion of rain forests to pastures in Panama. In: Schumann, D. A. and Partridge, W. L., eds. *The human ecology of tropical land settlement in Latin America*. Boulder, Westview Press. pp. 86-130.
 Discusses the deforestation resulting from the expansion of colonization and cattle raising in Panama between 1960 and 1980.
- 188 Jukofsky, D., 1991.** The uncertain fate of Panama's forests. *Journal of Forestry* 89(11):17-19.
 Discusses deforestation in Panama.
- 189 Kangas, P., 1991.** Macroscopic minimodels of deforestation and diversity. *Ecological Modelling* 57(3-4):277-294.
 "Simulation models are constructed for the two main approaches of describing tropical deforestation and loss of diversity: The population-driven approach, and the nomographic-species area relation approach." (p. 277)
- 190 Kartawinata, K. and Vayda, A. P., 1984.** Forest conversion in East Kalimantan, Indonesia: The activities and impact of timber companies, shifting cultivators, migrant pepper-farmers, and others. In: DiCasteri, F. et al., eds. *Ecology in practice. Part I: Ecosystem management*. Dublin, Tycooly; Paris, Unesco, pp. 98-126.

- 191 Kengen, S., 1990.** Some reflections on deforestation and development: The Brazilian experience. In: Palo, M. and Mery, G., eds. Deforestation or development in the Third World? Vol. III. Metsantutkimuslaitoksen Tiedonantoja no. 349; Scandinavian Forest Economics no. 32. pp. 145-154.
 "This paper reviews the process of deforestation, its causes and effects, the concept of development and its penetration into forestry circles." (p. 145)
- 192 Khor Kok Peng, 1987.** A Third World perspective of the forest resources crisis. In: Proceedings of the Conference on Forest Resources Crisis in the Third World, Penang, Malaysia, Sept. 6-8, 1986. Penang, Sahabat Alam Malaysia. pp. 11-24.
 Discusses the impact of deforestation on Third World societies and factors causing forest land resource depletion.
- 193 Knowland, W., 1985.** Rates of change of forest cover in South East Asia and implications for national economies. In: Davidson, J. et al., eds. The future of tropical rain forests in South East Asia. Giand, Switzerland, IUCN Commission on Ecology Papers no. 10. pp. 27-35.
 Discusses the linkages between deforestation and economic development in South East Asia.
- 194 Kummer, D., 1992.** Remote sensing and tropical deforestation: A cautionary note from the Philippines. Photogrammetric Engineering and Remote Sensing 58(10):1469-1471.
 "Five surveys of forest/vegetation cover using remotely sensed data have been undertaken in the Philippines in the past two decades. This article critically reviews the effect these surveys had on public discussion in the Philippines regarding the rate, extent, and causes of deforestation since the 1970s." (p. 1469)
- 195 Kummer, D. M., 1992.** Deforestation in the postwar Philippines. Chicago, University of Chicago Press. 177 pp.
 The objective of this study is to analyze and model deforestation in postwar Philippines at the provincial level.
- 196 Kummer, D. M., 1990.** Deforestation in the post-war Philippines. In: IUFRO World Congress, 19th, Montreal, Aug. 5-11, 1990, Division 6. Proceedings. Hull, Quebec, Forestry Canada, IUFRO Organizing Committee. pp. 199-209.
 Presents a model of deforestation for the post-war Philippines in which the two main agents of forest destruction are loggers and agriculturists (shifting and permanent).
- 197 Kummer, D. M., 1992.** Upland agriculture, the land frontier and forest decline in the Philippines. Agroforestry Systems 18(1):31-46.
 "...the importance of population pressure as a cause of deforestation in the Philippines cannot be supported by the available evidence." (p. 31)
- 198 Kunstadter, P., 1990.** Impacts of economic development and population change on Thailand's forests. Resource Management and Optimization 7(1-4):171-190.
 "This paper examines the socioeconomic and demographic conditions in Thailand associated with rapid loss of forest, and describes in detail the interaction between people, development and forests in the northern highlands." (p. 171)

- 199 Kunstadter, P., 1990.** Impacts of economic development and population change on Thailand's forests. In: Furtado, J. I. et al., eds. *Tropical resources: Ecology and development*. New York, Harwood Academic Publishers. pp. 171-190.
The conclusion is that deforestation and loss of forest quality is proceeding very rapidly in Thailand in association with economic development and population growth. (p. 187.) Reprinted from *Resource Management and Optimization* 7:171-190.
- 200 Kuru, A., 1990.** Roots of deforestation problems in Ethiopia. In: Palo, M. and Mery, G., eds. *Deforestation or development in the Third World? Vol. III. Metsantutkimuslaitoksen Tiedonantoja no. 349; Scandinavian Forest Economics no. 32.* pp. 71-79.
- 201 Kuru, A., 1992.** Time running out: The urgent need for forest resources conservation in Ethiopia. In: *Proceedings of the biennial meeting of the Scandinavian Society of Forest Economics, Gausdal, Norway, April, 1991. Scandinavian Forest Economics* 33:510-530.
Discusses some of the principal causes of deforestation in Ethiopia, and the policies which have led to accelerated deforestation.
- 202 Lal, R., 1987.** Need for, approaches to, and consequences of land clearing and development in the tropics. In: *Tropical land clearing for sustainable agriculture: Proceedings of an IBSRAM inaugural workshop, Bangkok, 1985. Bangkok, International Board for Soil Research and Management, IBSRAM Proceedings no. 3.* pp. 15-27.
Discusses the geographical distribution of tropical rainforests, and the rate, causes and ecological consequences of deforestation.
- 203 Ledec, G., 1992.** New directions for livestock policy: An environmental perspective. In: Downing, T. E. et al., eds. *Development or destruction: The conversion of tropical forest to pasture in Latin America.* Boulder, Westview Press. pp. 27-65.
This chapter documents the importance of cattle pasture expansion to tropical deforestation. It discusses the significance of the various environmental and other social costs of the deforestation that results from cattle ranching.
- 204 Ledec, G., 1985.** The political economy of tropical deforestation. In: Leonard, H. J., ed. *Divesting nature's capital; the political economy of environmental abuse in the Third World.* New York, Holmes & Meier. pp. 179-226.
"...examines the importance of tropical deforestation; the specific causes and their underlying political and economic incentives; and the barriers and political dynamics involving efforts to control the problem." (p. 179)
- 205 Lehmann, M. P., 1992.** Deforestation and changing land-use patterns in Costa Rica. In: Steen, H. K. and Tucker, R. P., eds. *Changing tropical forests: Historical perspectives on today's challenges in Central and South America.* [Durham, NC] Forest History Society. pp. 58-76.
Discusses the various land use activities, combined with socioeconomic forces and policy issues, that have contributed to deforestation in Costa Rica.
- 206 Leopoldo, P. R., editor, 1991.** Amazonia: Deforestation and possible effects: Proceedings of a symposium, 46th International Congress of Americanists, Amsterdam, July 4-8, 1988. *Forest Ecology and Management* 38(3-4):117-304.

- 207 Lewis, L. A. and Coffey, W. J., 1985.** The continuing deforestation of Haiti. *Ambio* 14(3):158-160.
- 208 Llewellyn, L., 1990.** Tropical deforestation and the threat to biodiversity: New directions in social assessment. In: Finsterbusch, K., et al., eds. *Methods for social analysis in developing countries*. Boulder, Westview Press, Social Impact Assessment Series no. 17. pp. 205-222.
- 209 Lundgren, B., 1984.** Global deforestation, its causes and suggested remedies. In: *The Club of Rome Conference, Helsinki, July 9-12, 1984. Plenary session and seminar [on] global forests*. Mimeo, 9 pp.
Suggests agroforestry as a remedy for deforestation in tropical and subtropical countries.
- 210 Lutzenberger, J., 1984.** Brazilian wilderness: A problem or a model for the world? In: Martin, V. and Inglis, M., eds. *Wilderness: The way ahead*. Middleton, WI, Lorian Press. pp. 38-46.
Discusses the "ecological devastation" occurring in the Brazilian Amazon.
- 211 Lutzenberger, J. A., 1987.** Who is destroying the Amazon rainforest? *Ecologist* 17(4/5):155-160.
The author discusses plantations, large dams, mining operations, and colonization schemes as being the major causes of destruction of the Amazon rainforest.
- 212 Mahalwar, K. P. S., 1987.** Deforestation: A socio-legal conspectus. In: Sapru, R.K., ed. *Environment management in India*. New Delhi, Ashish Publishing House. Vol. 1, pp. 235-245.
Discusses deforestation in India.
- 213 Mahar, D. J., 1989.** Deforestation in Brazil's Amazon Region: Magnitude, rate, and causes. In: Schramm, G. and Warford, J. J., eds. *Environmental management and economic development*. Baltimore, Johns Hopkins University Press. pp. 87-116.
The author analyzes the effects of certain government policies on deforestation in the Brazilian Amazon.
- 214 Malingreau, J. P. and Tucker, C. J., 1988.** Large-scale deforestation in the southeastern Amazon Basin of Brazil. *Ambio* 17(1):49-55.
Large-scale and accelerating deforestation was documented for the Brazilian state of Rondonia for the period 1982-1985.
- 215 Malingreau, J. P., Tucker, C. J., and Laporte, N., 1989.** AVHRR for monitoring global tropical deforestation. *International Journal of Remote Sensing* 10(4-5):855-867.
Advanced Very High Resolution Radiometer (AVHRR) data have been used to assess deforestation in three tropical areas: Amazon Basin, Kalimantan/Borneo, and the southern part of West Africa.

- 216 Malingreau, J. P., 1991.** Remote sensing for tropical forest monitoring: An overview. In: Belward, A. S. and Valenzuela, C. R., eds. Remote sensing and geographical information systems for resource management in developing countries. Boston, Kluwer Academic Publ. pp. 253-278.
Discusses the monitoring of tropical deforestation.
- 217 Martens, J., 1983.** Forests and their destruction in the Himalayas of Nepal. Kathmandu, Nepal Research Centre, Miscellaneous Paper no. 35. 70 pp.
- 218 McNeill, J. R., 1988.** Deforestation in the araucaria zone of southern Brazil, 1900-1983. In: Richards, J. F. and Tucker, R. P., eds. World deforestation in the twentieth century. Durham, NC, Duke University Press. pp. 15-32.
- 219 Melillio, J. M. et al., 1985.** A comparison of two recent estimates of disturbance in tropical forests. *Environmental Conservation* 12(1):37-40.
Discusses two studies of tropical forest disturbance: The FAO/UNEP report, authored by Lanly in 1982; and the National Academy of Sciences report, authored by Myers in 1980. Co-authors are C. A. Palm, R. A. Houghton, G. M. Woodwell, and N. Myers.
- 220 Mery, G. and Palo, M., 1989.** Accelerating deforestation in the Third World: A threat to forest-based development. *Paperi ja Puu* 71(8):902-903,905,907-911.
Discusses the effect of wide-scale deforestation on the development process in Third World countries.
- 221 Millikan, B. H., 1992.** Tropical deforestation, land degradation, and society: Lessons from Rondonia, Brazil. *Latin American Perspectives* 19(1):45-72.
"This article examines the causes of tropical deforestation, land degradation, and the apparent failure of small-farmer settlement projects in Rondonia." (p. 45)
- 222 Moeller, B. B., 1984.** Is the Brazilian Amazon being destroyed? *Journal of Forestry* 82(8):472-475.
The author writes that reports of widespread forest devastation are greatly exaggerated.
- 223 Mohiuddin Ahmad, 1987.** Forest exploitation: Leading towards disaster. In: *Proceedings of the Conference on Forest Resources Crisis in the Third World, Penang, Malaysia, Sept. 6-8, 1986.* Penang, Sahabat Alam Malaysia. pp. 30-39.
Discusses the forest resources situation in Bangladesh.
- 224 Myers, N., 1981.** Conversion rates in tropical moist forests: Review of a recent survey. In: Mergen, F., ed. *International symposium on tropical forests utilization and conservation: Ecological, sociopolitical and economic problems and potentials.* New Haven, CT, Yale University, School of Forestry and Environmental Studies. pp. 48-66.
Discusses the results of a survey documenting the rate of change in tropical forest cover. The full report of the survey was published by the National Research Council.

- 225 Myers, N., 1980.** Conversion of tropical moist forests. Washington, DC, National Academy of Sciences. 205 pp.
A report prepared for the Committee on Research Priorities in Tropical Biology of the National Research Council, and based on a survey conducted by Myers between July, 1978 and April, 1979. The author defines conversions as ranging from "marginal modification to fundamental transformation."
- 226 Myers, N., 1983.** Conversion rates in tropical moist forests. In: Golley, F. B., ed. Tropical rain forest ecosystems: Structure and function. New York, Elsevier. Ecosystems of the World 14A. pp. 289-300.
Discusses some of the main agents of conversion: The commercial exploiter of timber; the forest farmer; the fuelwood gatherer; and the cattle rancher.
- 227 Myers, N., 1981.** Deforestation in the tropics: Who gains, who loses? In: Sutlive, V. H. et al., eds. Where have all the flowers gone? Deforestation in the Third World. Williamsburg, VA, College of William and Mary, Dept. of Anthropology, Studies in Third World Societies Publication no. 13. pp. 1-21.
- 228 Myers, N., 1982.** Depletion of tropical moist forests: A comparative review of rates and causes in the three main regions. *Acta Amazonica* 12(4):745-758.
Trends and rates of tropical rain forest depletion are reviewed and compared in Latin America, Africa, and Southeast Asia.
- 229 Myers, N., 1980.** The conversion of tropical moist forests. *Environment* 22(6):6-13.
- 230 Myers, N., 1981.** The hamburger connection: How Central America's forests became North America's hamburgers. *Ambio* 10(1):3-8.
"Nearly 40 percent of the forest cover in Central America has been destroyed. The land is now pasture for the cattle that supply cheap beef to North America's fast food industry." (p. 3)
- 231 Myers, N., 1981.** The present status and future prospects of tropical moist forest. *Environmental Conservation* 7(2):101-114.
Discusses the rate and causes of deforestation or "conversion" of tropical forests.
- 232 Myers, N., 1983.** The tropical forest issue. *Progress in Resource Management and Environmental Planning* 4:1-28.
Discusses the principal agents of the conversion of tropical moist forests (the commercial timber logger, the forest farmer, the fuelwood gatherer, and the cattle rancher), the overall conversion rate, and the differential impact of conversion. The author concludes by discussing the contribution of TMF species to our daily welfare.
- 233 Myers, N., 1985.** Tropical deforestation and species extinctions: The latest news. *Futures* 17(5):451-463.
Discusses the linkage between tropical deforestation and species extinctions.

- 234 Myers, N., 1988.** Tropical deforestation and remote sensing. *Forest Ecology and Management* 23(2/3):215-225.
Discusses the capacities of remote sensing techniques, and evaluates their relevance to the continuous inventorying and monitoring of tropical forests. Concludes with a brief assessment of the most critical areas of deforestation.
- 235 Myers, N., 1990.** Tropical forests and life on earth. In: Head, S. and Heinzman, R., eds. *Lessons of the rainforest*. San Francisco, Sierra Club Books. pp. 13-24.
Discusses deforestation and its consequences.
- 236 Myers, N., 1986.** Tropical forests: Patterns of depletion. In: Prance, G. T., ed. *Tropical rain forests and the world atmosphere*. Boulder, CO, Westview Press, AAAS Selected Symposium no. 101. pp. 9-22.
- 237 Myers, N., 1988.** Tropical forests and their species: Going, going...? In: Wilson, E. O. and Peter, F. M., eds. *Biodiversity*. Washington, DC, National Academy Press. pp. 28-35.
Discusses deforestation and species extinctions resulting from it.
- 238 Myers, N., 1991.** Tropical forests: Present status and future outlook. *Climatic Change* 19:3-32.
This paper presents two main findings: 1) The deforestation rate in the humid tropics has expanded by almost 90% through the 1980s; and 2) The primary source of deforestation is shifting cultivation.
- 239 Myers, N., 1992.** Tropical forests: Present status and future outlook. In: Myers, N., ed. *Tropical forests and climate*. Boston, Kluwer. pp. 3-22.
The two conclusions are: (1) The main agent of deforestation is the "shifted cultivator." (2) Most efforts to reduce deforestation have concentrated on the commercial logger and cattle rancher who account for under 40% of all current deforestation. Attention should be shifted to the problems presented by the shifted cultivator. Reprinted from *Climatic Change* 19:3-22.
- 240 Myers, N., 1990.** Tropical forests. In: Leggett, J., ed. *Global warning: The Greenpeace report*. New York, Oxford University Press. pp. 372-399.
This chapter is a summary review of a report, "Deforestation rates in tropical forests and their climatic implications," published by Friends of the Earth UK. The author reviews the deforestation rates in tropical countries and assesses the future outlook.
- 241 Myers, N., 1979.** Tropical moist forests: We all gain or lose together. *IDRC Reports* 8(3):3-5.
Discusses the causes and consequences of the destruction of the tropical moist forests.
- 242 Myers, N., 1981.** Tropical moist forests: Depletion patterns and trends. In: Talbot, J. J. and Swanson, W., eds. *Woodpower: New perspectives on forest usage*. New York, Pergamon. pp. 1-8.

- 243 Nagata, S., 1991.** Econometric analysis on tropical deforestation (1): Simple and multiple log-linear regression analyses. In: The current state of Japanese forestry (VII): Its problems and future. Tokyo, Japanese Forest Economic Society. pp. 86-92.
- 244 Nahuz, M. A. R., 1990.** Deforestation and development: A compound issue for Brazil. In: Palo, M. and Mery, G., eds. Deforestation or development in the Third World? Vol. III. Metsantutkimuslaitoksen Tiedonantoja no. 349; Scandinavian Forest Economics no. 32. pp. 81-87.
Reviews the causes of deforestation in Amazonia and discusses measures taken to reduce deforestation.
- 245 Nations, J. and Komer, D., 1982.** Indians, immigrants and beef exports: Deforestation in Central America. *Cultural Survival Quarterly* 6(2):8-12.
"Nowhere has the loss of biological and cultural diversity been more severe, and nowhere has the United States' responsibility for tropical deforestation been more apparent, than in Central America." (p. 8)
- 246 Nations, J. D. and Komer, D. I., 1987.** Rainforests and the hamburger society. *Ecologist* 17(4/5):161-167.
"Tropical rainforests throughout Central America...are being replaced by pasturelands to produce beef, much of which is consumed by U.S. citizens." (p. 161)
- 247 Nations, J. D. and Komer, D. I., 1983.** Rainforests and the hamburger society: Can the cycle be broken? *Environment* 25(3):12-20.
Discusses the cycle of destruction of rainforests and use of the land to produce beef for export.
- 248 Nations, J. D., 1992.** Terrestrial impacts in Mexico and Central America. In: Downing, T. E. et al., eds. Development or destruction: The conversion of tropical forest to pasture in Latin America. Boulder, Westview Press. pp. 191-203.
Discusses some of the causes and consequences of deforestation in Mexico and Central America.
- 249 Nelson, R., Horning, N., and Stone, T. A., 1987.** Determining the rate of forest conversion in Mato Grosso, Brazil, using Landsat MSS and AVHRR data. *International Journal of Remote Sensing* 8(12):1767-1784.
The purpose of this study was to determine the rate of forest clearing in Mato Grosso, Brazil, using multitemporal, multisensor satellite digital data.
- 250 Ngau, H., Apoi, T. J., and Ling, C. Y., 1987.** Malaysian timber: Exploitation for whom? In: Proceedings of the Conference on Forest Resources Crisis in the Third World, Penang, Malaysia, Sept. 6-8, 1986. Penang, Sahabat Alam Malaysia. pp. 40-53.
Discusses deforestation in Malaysia and its causes including logging, development projects, agricultural and cash crop plantation schemes. The impact of deforestation on indigenous communities and on ecology is discussed.

- 251 Nigh, R. B. and Nations, J. D., 1980. Tropical rainforests. Bulletin of the Atomic Scientists 36(3):12-19.**
Discusses the causes and consequences of rainforest destruction, and alternatives to deforestation.
- 252 Oguntala, A. B., editor, 1986. The challenge of deforestation in Nigeria: Proceedings of the 16th annual conference of the Forestry Association of Nigeria, Dec. 7-11, 1986. Ibadan, Forestry Association of Nigeria. 724 pp.**
- 253 Oka, H., 1991. Process of deforestation in the Philippines. In: The current state of Japanese forestry (VII): Its problems and future. Tokyo, Japanese Forest Economic Society. pp. 93-98.**
- 254 Ooi Jin Bee, 1987. Depletion of the forest resources in the Philippines. Singapore, Institute of Southeast Asian Studies, ASEAN Economic Research Unit, Field Report Series no. 18. 60 pp.**
The author discusses forest resource depletion from logging and deforestation in the Philippines.
- 255 Osemeobo, G. J., 1988. The human causes of forest depletion in Nigeria. Environmental Conservation 15(1):17-28.**
This study "focuses on the causes of forest depletion in private lands that have no specific land-use policy." (p. 17)
- 256 Owino, F., 1991. Balance between agricultural lands and forests: The case of developing countries. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area C. Revue Forestiere Francaise, Hors Serie no. 3. pp. 79-86.**
Discusses land use practices in developing countries which pose threats to forests, in particular deforestation.
- 257 Palmer, J., 1991. Tropical deforestation: How serious and whose fault? In: Pyatt, N. and Williams, J., eds. Tropical forestry: Third world priorities versus western concerns: Proceedings of the 1990 International Student Forestry Symposium, University of Wales, Jan., 1990. Bangor, University of Wales. pp. 16-24.**
Discusses the causes of deforestation: Natural disasters, deforestation of industrial sites, permanent agriculture, transitory agriculture, and ranching.
- 258 Palo, M. and Mery, G., editors, 1990. Deforestation or development in the Third World? Vol. III. Metsantutkimuslaitoksen Tiedonantoja no. 349; Scandinavian Forest Economics no. 32. 189 pp.**
This volume contains most of the papers presented at the International Seminar on Deforestation or Development in the Third World, held at Saariselka, Finland, Apr. 26-29, 1989.

- 259 Palo, M. and Salmi, J., editors, 1987.** Deforestation or development in the Third World? Metsantutkimuslaitoksen Tiedonantoja no. 272. 258 pp.
This publication includes 5 articles relating to "the problems surrounding the forest-based economic development in the tropics with its consequent deforestation, erosion and social costs." (p. 5)
- 260 Palo, M. and Mery, G., 1986.** Deforestation perspectives in the tropics with a global view: A pilot quantitative human population growth approach. In: Congress report, 18th IUFRO World Congress. Vienna, International Union of Forest Research Organizations. pp. 552-585.
"This paper analyses deforestation in the tropical countries, in the industrialized countries and in the rest of the world primarily through correlation and regression between forest coverage and population density by countries." (p. 552)
- 261 Palo, M., 1992.** Accelerating deforestation in the tropics: Strong theoretical and empirical support. In: Proceedings of the biennial meeting of the Scandinavian Society of Forest Economics, Gausdal, Norway, April, 1991. Scandinavian Forest Economics 33:468-485.
The author concludes that "more funding and support for continuous monitoring and research on deforestation are needed."
- 262 Palo, M., 1990.** Deforestation and development in the Third World: Role of system causality and population. In: Palo, M. and Mery, G., eds. Deforestation or development in the Third World? Vol. III. Metsantutkimuslaitoksen Tiedonantoja no. 349; Scandinavian Forest Economics no. 32. pp. 155-172.
Discusses the linkage of deforestation and development at the international, national, and local levels.
- 263 Palo, M., 1987.** Deforestation perspectives for the tropics: A provisional theory with pilot applications. In: Palo, M. and Salmi, J., eds. Deforestation or development in the Third World? Metsantutkimuslaitoksen Tiedonantoja 272:107-139.
- 264 Palo, M., Mery, G., and Salmi, J., 1987.** Deforestation in the tropics: Pilot scenarios based on quantitative analyses. In: Palo, M. and Salmi, J., eds. Deforestation or development in the Third World? Metsantutkimuslaitoksen Tiedonantoja 272:53-106.
"The purpose of this paper is to analyze quantitatively tropical deforestation..."
(p. 55)
- 265 Palo, M., 1987.** Deforestation perspectives for the tropics: A provisional theory with pilot applications. In: Kallio, M. et al., eds. The global forest sector: An analytical perspective. New York, Wiley. pp. 57-90.
- 266 Palo, M., Mery, G., and Salmi, J., 1987.** Deforestation and development perspectives in developing countries: A research project plan for 1987-1991. In: Palo, M. and Salmi, J., eds. Deforestation or development in the Third World? Metsantutkimuslaitoksen Tiedonantoja 272:223-258.

- 267 Palo, M., 1984.** Deforestation scenarios for the tropics. In: Papastavrou, A. C. Policy analysis for forestry development: Proceedings of the International Conference, Thessaloniki, Greece, Aug. 27-31, 1984. Thessaloniki, Forest Research Institute of Thessaloniki. Vol. 2, pp. 449-463.
Examines the quality of existing deforestation statistics in the tropics, and based on a theory developed by the author, presents "tentative scenarios" on future tropical deforestation.
- 268 Palo, M., 1989.** Deforestation or development in the third world: Concepts and causality revisited. In: Proceedings of the biennial meeting of the Scandinavian Society of Forest Economics, Visby, Sweden, May-June, 1989. Scandinavian Forest Economics no. 31. 39 pp.
- 269 Palo, M., Kanninen, M., Mery, G., and Selby, A., 1986.** Forest-based socio-economic development and deforestation in developing countries: A feasibility study for a major research project. In: Congress report, 18th IUFRO World Congress. Vienna, International Union of Forest Research Organizations. pp. 533-551.
Reports on a study which identifies the causes of deforestation of tropical and subtropical forest and relates them to the positive and negative aspects of forest-based socio-economic development in these areas.
- 270 Palo, M., 1990.** System causality of deforestation and development in the Third World. In: International Union of Forest Research Organizations, 19th World Congress, Montreal, Aug. 5-11, 1990. Congress Report, Vol. B. Hull, Quebec, Forestry Canada, IUFRO Organizing Committee. pp. 408-419.
"The purpose of this paper is to give a scientific and holistic explanation to the wide-scale deforestation process with its intimate linkages with development in the Third World." (p. 408)
- 271 Panayotou, T. and Sungsuwan, S., 1989.** An econometric study of the causes of tropical deforestation: The case of Northeast Thailand. Cambridge, MA, Harvard Institute for International Development, Development Discussion Paper no. 284. 32 pp.
"This study develops a theoretically based and empirically estimable model of tropical deforestation by introducing three demand functions: The demand for logging, the demand for fuelwood, and the demand for conversion to agricultural land." (abstract)
- 272 Pasca, T. M., 1988.** The politics of tropical deforestation. American Forests 94(11/12):21-24.
"An understanding of foreign aid is integral to stemming the tide of tropical deforestation." (p. 21)
- 273 Perez, T. D., 1990.** Philippine forests: A case of disappearance. Philippine Natural Resources Law Journal 3(1/2):18-35.
Discusses rate and causes of deforestation in the Philippines.

- 274 Pimentel, D. et al., 1985.** Deforestation: Interdependency of fuelwood and agriculture. *Oikos* 46(3):404-412.
 Agricultural expansion into new land accounts for most of the forest land being lost each year. The author suggests that "the most promising policy to reduce deforestation and increase food supplies is to double crop yields over the next 2 to 3 decades on the most productive agricultural lands." (p. 404.) Co-authors are: W. Dazhong, S. Eigenbrode, H. Lang, D. Emerson, and M. Karasik.
- 275 Plumwood, V. and Routley, R., 1982.** World rainforest destruction: The social factors. *Ecologist* 12(1):4-22.
 Discusses the various social reasons for tropical deforestation, and finds fault with the "development model" in use in the underdeveloped world which places increasing pressure on the tropical forests.
- 276 Porras, A. and Villarreal, B., 1986.** [Deforestation in Costa Rica (Social, economic and legal implications)]. San Jose, Editorial Costa Rica. [120] pp.
 In Spanish.
- 277 Postel, S., 1988.** Global view of a tropical disaster. *American Forests* 94(11/12):25-29,69-71.
 "Each year 28 million acres of tropical forest are destroyed through the combined action of land clearing for crop production, fuelwood gathering, and cattle ranching." (p. 25)
- 278 Prance, G. T., 1990.** Rainforested regions of Latin America. In: Head, S. and Heinzman, R., eds. *Lessons of the rainforest*. San Francisco, Sierra Club Books. pp. 53-65.
 Following a general discussion of the area, the author discusses historic and recent forest destruction.
- 279 Raven, P.H., 1988.** Our diminishing tropical forests. In: Wilson, E. O. and Peter, F. M., eds. *Biodiversity*. Washington, DC, National Academy Press. pp. 119-122.
 Discusses deforestation and its consequences in terms of the plants and animals living in them.
- 280 Rawat, A. S., 1990.** The history of deforestation in the Central Himalayan region. *Landscape History* 12:55-63.
- 281 Reddy, Y. Y., Prasad, K. S. S., and Reddy, G. J., 1990.** Deforestation and its consequences: A formidable situation in India. *Environment and Ecology* 8(1):192-196.
 The official figures on deforestation in India are disputed.

- 282 Repetto, R., 1990.** Deforestation in the tropics. *Scientific American* 262(4):36-42.
 "Government policies that encourage exploitation - in particular excessive logging and clearing for ranches and farms - are largely to blame for the accelerating destruction of tropical forests." (p. 36)
- 283 Revington, J., 1992.** Stopping tropical deforestation. *World Rainforest Report* 22:31-33.
 The author states that "the basic cause of most rainforest destruction is misguided development." (p. 31)
- 284 Revington, J., 1992.** The causes of tropical deforestation. *World Rainforest Report* 21:16-17.
 Some of the causes discussed are: Commercial logging, colonization schemes, mining and industrial projects, and cattle ranching.
- 285 Rich, B., 1990.** Multilateral development banks and tropical deforestation. In: Head, S. and Heinzman, R., eds. *Lessons of the rainforest*. San Francisco, Sierra Club Books. pp. 118-130.
 The author contends that "multilateral banks play a key role in influencing the economic and political dynamics of deforestation...." (p. 120)
- 286 Richards, J. F. and Tucker, R. P., editors, 1988.** *World deforestation in the twentieth century*. Durham, NC, Duke University Press. 321 pp.
- 287 Richards, P. W., 1973.** The tropical rain forest. *Scientific American* 229(6):58-67.
 Discusses the tropical rain forest ecosystem, deforestation, and consequences of destruction.
- 288 Rieger, H. C., 1977.** Deforestation of the Himalayas as a social problem. In: *Himalaya, Ecologie - Ethnologie*, Sevres-Paris, Dec. 7-10, 1976. *Colloques Internationaux du Centre National de la Recherche Scientifique* no. 268. pp. 539-545.
 "This paper examines the social mechanisms which, apart from sheer increases in population, are leading to deforestation." (p. 539)
- 289 Roper, J. and Thirgood, J. V., 1986.** The tropical forest: Problems and solutions. *Forestry Chronicle* 62(3):194-201.
 Discusses the causes of deforestation including slash and burn agriculture, firewood collection, timber harvesting, and the expansion of cattle ranching. The adverse effects and social aspects of deforestation are also discussed, along with suggestions for improving the situation.
- 290 Routley, R. and Routley, V., 1980.** Destructive forestry in Melanesia and Australia. *Ecologist* 10(1/2):56-67.
 The authors contend that "the bulk of current rainforest destruction is neither an inevitable result of population expansion nor a process of real benefit to the bulk of the population affected...." (p. 56.) Examples of "destructive forestry" are discussed.

- 291 Rowe, R., Sharma, N., and Crowder, J., 1992.** Deforestation: Problems, causes, and concerns. In: Sharma, N. P., ed. *Managing the world's forests: Looking for balance between conservation and development.* Dubuque, IA, Kendall/Hunt. pp. 33-45.
 "The principal direct causes of uncontrolled deforestation in the tropics are agricultural expansion, overgrazing, fuelwood gathering, commercial logging, and infrastructure and industrial development." (p. 34)
- 292 Rudel, T. K., 1989.** Population, development, and tropical deforestation: A cross national study. *Rural Sociology* 54(3):327-338.
 "A cross-sectional analysis which links variations in deforestation with variations in population growth and the availability of capital indicates the socioeconomic processes which sustain tropical deforestation." (p. 327)
- 293 Sader, S. A. and Joyce, A. T., 1988.** Deforestation rates and trends in Costa Rica, 1940-1983. *Biotropica* 20(1):11-19.
- 294 Salati, E. and Vose, P. B., 1983.** Depletion of tropical rain forests. *Ambio* 12(2):67-71.
 Discusses deforestation, its socioeconomic consequences, and research and management options.
- 295 Sarrailh, J. M., 1991.** [Deforestation and agricultural development: Impact on the forest in Guyana.] In: 10th World Forestry Congress, Paris, 1991. *Proceedings, Discussion Area C. Revue Forestiere Francaise, Hors Serie no. 3.* pp. 87-92.
 In French.
- 296 Saulei, S. M., 1987.** The forest resource development crisis in Papua New Guinea. In: *Proceedings of the Conference on Forest Resources Crisis in the Third World, Penang, Malaysia, Sept. 6-8, 1986.* Penang, Sahabat Alam Malaysia. pp. 81-92.
 Discusses the causes of deforestation in Papua New Guinea.
- 297 Sawyer, D., 1990.** The future of deforestation in Amazonia: A socioeconomic and political analysis. In: Anderson, A. B., ed. *Alternatives to deforestation: Steps toward sustainable use of the Amazon rain forest.* New York, Columbia University Press. pp. 265-274.
- 298 Sawyer, J., 1990.** Tropical forests. [Gland, Switzerland] World Wide Fund for Nature. 48 pp.
 A general treatment of the subject, concentrating on tropical forest destruction, its causes, and what can be done to correct it.
- 299 Sayer, J. A. and Whitmore, T. C., 1991.** Tropical moist forests: Destruction and species extinction. *Biological Conservation* 55(2):199-213.
 Discusses rates and areas of tropical deforestation.

- 300 Schmink, M., 1987.** The rationality of tropical forest destruction. In: Figueroa Colon, J. C. et al., eds. *Management of the forests of tropical America: Prospects and technologies.* Proceedings of a conference, San Juan, Puerto Rico, Sept. 22-27, 1986. U.S. Forest Service, Institute of Tropical Forestry. pp. 11-30.
The author discusses deforestation in the Brazilian Amazon region and contends that "people exploit tropical resources in a non-sustainable fashion because they have compelling pragmatic reasons for doing so." (p. 11)
- 301 Scholz, U., 1986.** Deforestation in the Asian tropics: Causes and consequences. *Asien* 21:1-29.
Discusses the present extent of deforestation in tropical countries and the causes of deforestation and degradation, including logging, fuelwood collection, grazing and fire, agricultural expansion, and state-directed land settlement. Concludes by discussing the environmental, economic, and social impact of deforestation.
- 302 Secrett, C., 1986.** The environmental impact of transmigration. *Ecologist* 16(2/3):77-88.
Discusses rainforest destruction caused by Indonesia's Transmigration Programme.
- 303 Sedjo, R. A. and Clawson, M., 1984.** Global forests. In: Simon, J. L. and Kahn, H., eds. *The resourceful earth: A response to Global 2000.* New York, Blackwell. pp. 128-170.
The authors examine the evidence regarding the current rate of deforestation and... conclude that the most recent and best evidence suggests that while serious local problems of excessive deforestation do exist in some regions of the tropics, the overall picture is not nearly as gloomy as portrayed in *Global 2000* (Barney, 1980). (p. 128)
- 304 Sedjo, R. A. and Clawson, M., 1983.** How serious is tropical deforestation? *Journal of Forestry* 81(12):792-794.
The authors contend that the world's tropical forests are being depleted only in some areas, and that deforestation is not as severe as has been suggested by others.
- 305 Shane, D. R., 1986.** Hoofprints on the forest: Cattle ranching and the destruction of Latin America's tropical forests. Philadelphia, Institute for the Study of Human Issues. 159 pp.
The author considers cattle ranching to be the primary cause of deforestation in Latin America.
- 306 Shrestha, R. L., 1986.** Socioeconomic factors leading to deforestation in Nepal. Morrilton, AR, Winrock International Institute for Agricultural Development, Research and Planning Paper Series no. 2. 23 pp.
This research explores various socioeconomic factors which contribute to deforestation in Nepal, and concludes with suggestions for improving cooperation between government and communities toward combatting deforestation.
- 307 Siiriainen, A., 1990.** On the historical aspect of deforestation in the tropics. In: Palo, M. and Mery, G., eds. *Deforestation or development in the Third World?* Vol. III. *Metsantutkimuslaitoksen Tiedonantoja* no. 349; *Scandinavian Forest Economics* no. 32. pp. 23-28.

- 308 Simmons, E., 1980.** Development assistance in forestry: An A.I.D. policy background paper. Washington, D.C., Agency for International Development. 50 pp.
Looks at the problems of deforestation and discusses how A.I.D. can develop programs to better deal with the problems.
- 309 Simula, M., 1984.** Forestry and development - A global viewpoint. In: The Club of Rome Conference, Helsinki, July 9-12, 1984. Plenary session and seminar [on] global forests. Mimeo, 22 pp.
Includes a section on deforestation in the tropics.
- 310 Singh, G., 1981.** Destroying Malaysian forests. In: Sutlive, V. H. et al., eds. Where have all the flowers gone? Deforestation in the Third World. Williamsburg, VA, College of William and Mary, Dept. of Anthropology, Studies in Third World Societies Publication no. 13. pp. 181-190.
The author discusses the extent of deforestation in Malaysia and some of its causes, including economic pressures and governmental apathy and mismanagement.
- 311 Sioli, H., 1985.** The effects of deforestation in Amazonia. *Geographical Journal* 151(2):197-203.
- 312 Skinner, J. K., 1985.** Big Mac and the tropical forests. *Monthly Review* 37(7):25-32.
Demand for beef in the U.S. results in a large volume of imports from countries in South and Central America. These countries are cutting their tropical forests in order to provide rangeland for the beef.
- 313 Southgate, D. and Runge, C. F., 1990.** The institutional origins of deforestation in Latin America. University of Minnesota, Dept. of Agricultural and Applied Economics, Staff Paper P90-5. [22] pp.
Presents a case study of tropical deforestation in Ecuador.
- 314 Southgate, D., Sierra, R., and Brown, L., 1991.** The causes of tropical deforestation in Ecuador: A statistical analysis. *World Development* 19(9):1145-1151.
"This paper reports a statistical analysis of the causes of agricultural colonization and land clearing in eastern Ecuador. The results bolster many of the arguments that have been made about the social forces driving tropical deforestation.... These results suggest that institutional reform is needed to encourage conservation of tropical forests." (p.1145)
- 315 Srun, S. M., 1985.** An overview of the world's deforestation. *International Union of Societies of Foresters, Newsletter* 22:3-5.
Reprinted from *Canopy International*, August 1983.
- 316 Srun, S. M., 1983.** An overview of the world's deforestation. *Canopy International* 9(8):3-5.
Discusses some of the causes of deforestation and concludes with some recommendations of ways in which the problems of deforestation can be alleviated.
- 317 Srun, S. M., 1985.** Tropical forest cover continues to disappear. *World Wood* 26(1):17-19.

- 318 Stewart, J., 1986.** The impact of deforestation on life in Nepal. *Cultural Survival Quarterly* 10(3):31-32.
- 319 Stone, T. A., Brown, I. F., and Woodwell, G. M., 1991.** Estimation by remote sensing, of deforestation in central Rondonia, Brazil. *Forest Ecology and Management* 38(3-4):291-304.
- 320 Stone, T. A., Woodwell, G. M., and Houghton, R. A., 1989.** Tropical deforestation in Para, Brazil: Analysis with Landsat and Shuttle Imaging Radar-A. In: *IGARSS '89: [Proceedings] 12th Canadian Symposium on Remote Sensing, Vancouver, July, 1989.* Vol. 1, pp. 192-195.
- 321 Sutlive, V. H., Altshuler, N., and Zamora, M. D., editors, 1981.** *Blowing in the wind: Deforestation and long-range implications.* Williamsburg, VA, College of William and Mary, Dept. of Anthropology, Studies in Third World Societies Publication no. 14, pp. 277-514.
A collection of articles.
- 322 Sutlive, V. H., Altshuler, N., and Zamora, M. D., editors, 1981.** *Where have all the flowers gone? Deforestation in the Third World.* Williamsburg, VA, College of William and Mary, Dept. of Anthropology, Studies in Third World Societies Publication no. 13. 278 pp.
- 323 Thapa, G. B. and Weber, K. E., 1990.** Actors and factors of deforestation in 'Tropical Asia'. *Environmental Conservation* 17(1):19-27
Discusses the extent of deforestation in the tropical forests of Asia and the causes of this destruction, including expansion of agricultural land, livestock ranching, fuelwood consumption, and commercial logging.
- 324 Thapa, G. B. and Weber, K. E., 1991.** Deforestation in the Upper Pokhara Valley, Nepal. *Singapore Journal of Tropical Geography* 12(1):52-67.
- 325 Thomson, J. T., 1988.** Deforestation and desertification in twentieth century arid Sahelian Africa. In: Richards, J. F. and Tucker, R. P. eds. *World deforestation in the twentieth century.* Durham, NC, Duke University Press. pp. 70-90.
- 326 Toledo, V. M., 1992.** Bio-economic costs. In: Downing, T. E. et al., eds. *Development or destruction: The conversion of tropical forest to pasture in Latin America.* Boulder, Westview Press. pp. 67-93.
Evaluates the biological and economic costs (per unit area) of transforming forests to pastures in Latin America.
- 327 Troensegaard, J., 1990.** Present patterns and rates of forest loss. In: *Proceedings of the Conference on Tropical Forestry Response Options to Global Climate Change, Sao Paulo, Brazil, Jan. 9-11, 1990.* U.S. Environmental Protection Agency, Office of Policy Analysis. pp. 69-84.

- 328 Tucker, C. J., Holben, B. N., and Goff, T. E., 1984.** Intensive forest clearing in Rondonia, Brazil, as detected by satellite remote sensing. *Remote Sensing of Environment* 15(3):255-261.
- 329 Tucker, R. P. and Richards, J. F., editors, 1983.** Global deforestation and the nineteenth-century economy. Durham, NC, Duke University Press. 210 pp.
- 330 Tucker, R. P., 1987.** Dimensions of deforestation in the Himalaya: The historical setting. *Mountain Research and Development* 7(3):328-331.
 This paper traces three major factors in causing deforestation in the Himalayan region: "the intrusion of modern political and economic systems into the mountains; the growth of modern resource management agencies, notably the Indian Forest Service; and the pressures of rural subsistence and population migrations." (p. 328)
- 331 Tucker, R. P., 1987.** Major sources of deforestation in the tropics since 1800. In: International Union of Forest Research Organizations, Subject Group S6.07, Forest History, 18th IUFRO World Congress, 1986. Voluntary papers. Zurich, Institut fur Wald und Holzforschung, ETH-Zentrum. pp. 60-71.
- 332 Tucker, R. P., 1986.** Major sources of deforestation in the tropics since 1800. In: Proceedings 18th IUFRO World Congress, Ljubljana, Yugoslavia, Sept. 7-21, 1986. Division 6: General Subjects. Vienna, IUFRO Secretariat. pp. 300-311.
- 333 Twum-Barima, K., 1981.** Forests of Ghana: A diminishing asset. In: Sutlive, V. H. et al., eds. *Where have all the flowers gone? Deforestation in the Third World.* Williamsburg, VA, College of William and Mary, Dept. of Anthropology, Studies in Third World Societies Publication no. 13. pp. 111-128.
 Discusses deforestation in Ghana, including resources, land use, management and policy issues.
- 334 U.S. Congress, 1983.** Deforestation: Environmental impact and research needs. Joint hearing before the Subcommittee on Natural Resources...of the Committee on Science and Technology...U.S. House of Representatives, 97th Congress, 2nd Session, Sept. 16, 1982. 201 pp.
- 335 U.S. Congress, 1981.** Tropical deforestation. Hearings before the Subcommittee on International Organizations of the Committee on Foreign Affairs, House of Representatives, 96th Congress, 2d Session, May 7, June 19, and Sept. 18, 1980. Washington, DC, G.P.O. 446 pp.
 Divided into three sections: An overview; the role of international organizations; the role of multinational organizations.

- 336 U.S. General Accounting Office, 1982.** Changes needed in U.S. assistance to deter deforestation in developing countries. U.S. General Accounting Office, GAO/ID-82-50. 56 pp.
This report to Congress discusses the problem of deforestation in developing countries. The GAO found "that the principal cause of deforestation--subsistence farmers' clearing of forests for pastures, farmland, fuelwood and livestock fodder--is not being adequately addressed in U.S. assistance activities."
- 337 U.S. International Environmental Referral Center, 1978.** Issues in tropical deforestation. Washington, DC, U.S. Environmental Protection Agency; International Environmental Referral Center. [44] pp.
A bibliography.
- 338 U.S. Strategy Conference on Tropical Deforestation, 1978.** Proceedings. Washington DC, Sponsored by U.S. Dept. of State and U.S. Agency for International Development. 78 pp.
One of the main objectives of the conference was "expanding the level of awareness and dialogue within the U.S. about tropical forest management problems and needs...."
- 339 Umeh, L. L., 1986.** Deforestation: Its extent and effects on Nigeria. In: Oguntala, A. B., ed. The challenge of deforestation in Nigeria: Proceedings of the 16th annual conference of the Forestry Association of Nigeria, Dec. 7-11, 1986. Ibadan, Forestry Association of Nigeria. pp. 38-48.
- 340 United Nations Econ. and Soc. Comm. for Asia and the Pacific, 1987.** Regional overview of environmental and socio-economic aspects of tropical deforestation in the ESCAP Region. In: Hadi, Y. et al., eds. Proceedings [of the] Regional Workshop on Impact of Man's Activities on Tropical Upland Forest Ecosystems, 1986. Serdang, Selangor, Malaysia, Universiti Pertanian Malaysia, Faculty of Forestry. pp. 341-381.
"This paper provides an overview of the extent of deforestation and degradation in the countries of the Asia and Pacific region, identifies their causes, analyses their ecological, economic and social impacts, and lastly discusses measures and recommendations for future actions." (p. 341)
- 341 Utting, P., 1991.** The social origins and impact of deforestation in Central America. Geneva, United Nations Research Institute for Social Development, Discussion Paper no. 24. 43 pp.
- 342 Veillon, J. P., 1976.** Deforestation in the Western Llanos of Venezuela from 1950 to 1975. In: Hamilton, L. S. Tropical rainforest use and preservation: A study of problems and practices in Venezuela. San Francisco, Sierra Club, International Series no. 4. Appendix 4. 17 pp.
- 343 VonMoltke, K., 1990.** International economic issues in tropical deforestation. In: Proceedings of the Conference on Tropical Forestry Response Options to Global Climate Change, Sao Paulo, Brazil, Jan. 9-11, 1990. U.S. Environmental Protection Agency, Office of Policy Analysis. pp. 146-165.

- 344 Wallace, M. B., 1982.** Deforestation in Nepal. *Cultural Survival Quarterly* 6(2):21-22.
- 345 Wallach, B., 1986.** Deforestation: The view from south India. *Myforest* 22(2):71-78.
- 346 Whitmore, T. C., 1983.** Global forest cover. In: *Trees in the 21st century*. Berkhamsted, Herts, U.K., A. B. Academic Publishers. pp. 113-123.
Discusses global forest cover generally and then discusses tropical deforestation, its consequences, and responses to the problem.
- 347 Whitten, A. J., 1987.** Indonesia's transmigration program and its role in the loss of tropical rain forests. *Conservation Biology* 1(3):239-246.
The major environmental impact of Indonesia's transmigration program is the loss of forest but the loss attributable directly to transmigration is relatively small.
- 348 Williams, M., 1989.** Deforestation: Past and present. *Progress in Human Geography* 13(2):176-208.
Includes a discussion of tropical deforestation.
- 349 Witte, J., 1992.** Deforestation in Zaire: Logging and landlessness. *Ecologist* 22(2):58-64.
"As the loggers advance, they pave the way for settlers who introduce forms of agriculture that further destroy the forest." (p. 58)
- 350 Wong, K. M., 1984.** Tropical forests: Can we cope with the dwindling resource? *Wallaceana* W35:3-7.
The author discusses tropical deforestation and ways of coping with the pressures on the dwindling resource. He discusses management of modified forests, reforestation through plantations, and community forestry.
- 351 Wood, W. B., 1990.** Tropical deforestation: Balancing regional development demands and global environmental concerns. *Global Environmental Change* 1(1):23-41.
Discusses the international dimension relating to tropical deforestation, including technical, financial, and political concerns.
- 352 Woodwell, G. M., Houghton, R. A., and Stone, T. A., 1986.** Deforestation in the Brazilian Amazon Basin measured by satellite imagery. In: Prance, G. T., ed. *Tropical rain forests and the world atmosphere*. Boulder, CO, Westview Press, AAAS Selected Symposium no. 101. pp. 23-32.
- 353 Woodwell, G. M., et al., 1987.** Deforestation in the tropics: New measurements in the Amazon Basin using Landsat and NOAA Advanced Very High Resolution Radiometer imagery. *Journal of Geophysical Research* 92(D2):2157-2163.
Satellite imagery techniques were applied to measure rates of deforestation in the Brazilian state of Rondonia in the southwestern Amazon Basin. Co-authors are R. A. Houghton, T. A. Stone, R. F. Nelson, and W. Kovalick.

354 World Rainforest Movement, 1990. Rainforest destruction: Causes, effects and false solutions. Penang, Malaysia, World Rainforest Movement. 90 pp.

Includes chapters on the rate of destruction of tropical forests, impact of deforestation, and causes of deforestation. The last chapter, entitled "False Solutions", discusses the Tropical Forestry Action Plan and other programs.

355 Zerbe, J. I. et al., 1980. Forestry activities and deforestation problems in developing countries. U.S. Forest Products Laboratory. 115 pp. + appendix.

Report to the Office of Science and Technology, Agency for International Development. Prepared by a study team including J. I. Zerbe, J. L. Whitmore, H. E. Wahlgren, J. F. Laundrie, and K. A. Christophersen. The overall purpose of the report was to summarize for AID forestry activities in developing countries. This information was to be used by AID in combatting deforestation.

CONSERVATION AND SUSTAINABLE DEVELOPMENT



- 356 Aiken, S. R. and Moss, M. R., 1975.** Man's impact on the tropical rainforest of Peninsular Malaysia. *Biological Conservation* 8(3):213-229.
Discusses the effect of activities such as mining, logging, and agriculture on the tropical rainforests of Malaysia and the need for management and conservation of these forests.
- 357 Almeda, F. and Pringle, C. M., editors, 1988.** Tropical rainforests: Diversity and conservation. San Francisco, California Academy of Sciences; American Association for the Advancement of Sciences, Pacific Division. California Academy of Sciences Memoir no. 12. 306 pp.
Includes papers presented at the Symposium on Diversity and Conservation of Tropical Rainforests, San Francisco, Sept. 27-28, 1985.
- 358 Anderson, A. B., editor, 1990.** Alternatives to deforestation: Steps toward sustainable use of the Amazon rain forest. New York, Columbia University Press. 281 pp.
Includes papers presented at an international conference held in Belem, Brazil, Jan. 27-30, 1988. The papers are arranged under the following headings: Natural forest management; agroforestry; landscape recovery; and implications for regional development.
- 359 Aniziani, M. P. et al., 1990.** Conservation of Tropical Forests Workshop. In: Proceedings of the Conference on Tropical Forestry Response Options to Global Climate Change, Sao Paulo, Brazil, Jan. 9-11, 1990. U.S. Environmental Protection Agency, Office of Policy Analysis. pp. 281-284.
- 360 Arden-Clarke, C., 1991.** Conservation and sustainable management of tropical forests: The role of ITTO and GATT. Revised, 1991. Gland, Switzerland, WWF International. 13 pp.
Discusses the threat posed by the terms of the General Agreement on Tariffs and Trade (GATT) to the International Tropical Timber Agreement.
- 361 Arnold, J. E. M., 1990.** Common property management and sustainable development in India. University of Minnesota, College of Natural Resources, Forestry for Sustainable Development Program, Working Paper no. 9. 35 pp.
This paper examines: 1) "The importance of common property resources for sustainable rural development;" 2) "The advantages and disadvantages of continued management of such resources communally...;" and 3) "The requisites for sustainable common property resource management." (p. 1)

- 362 Arntzen, J. W., 1991.** Third World debt, environment and debt-for-nature swaps. *BOS Nieuwsletter* 22:5-21.
 "The secondary loan market offers an attractive opportunity to finance nature conservation projects; several countries with large discounts are of strategic importance for biological diversity and tropical forests." (p. 13)
- 363 Arua Oa, A., 1990.** Rainforest destruction and proposals for their conservation. *Klinkii* 4(2):63-81.
 Discusses the deforestation of tropical rainforests and their conservation. The term conservation in the context of this paper refers to the "wise use" of the rainforest resources.
- 364 Asabere, P. K., 1987.** Attempts at sustained yield management in the tropical high forests of Ghana. In: Mergen, F. and Vincent, J. R., eds. *Natural management of tropical moist forests: Silvicultural and management prospects of sustained utilization*. New Haven, CT, Yale University, School of Forestry and Environmental Studies. pp. 47-70.
- 365 Ayres, J. M., 1989.** Debt-for-equity swaps and the conservation of tropical rain forests. *Trends in Ecology & Evolution* 4(11):331-332.
 Discusses debt-for-nature vs. debt-for-equity swaps. The author concludes that "it is a dominant opinion that foreign capital for nature conservation is welcome if subordinated to Brazil's own national priorities." (p. 332)
- 366 Banda, C. D., 1992.** The future of tropical rain forests. *Development and Cooperation (D+C)* 1/92:24-26.
 "Rather than encouraging the payment of subsidies for the production of expensive and dangerous substitutes to tropical timber in temperate lands, it would be beneficial to the world at large if concerned ecological organizations seek to promote international co-operation and development in the sustainable management of tropical rain forests." (p. 26)
- 367 Bauer, A. and Illing, G., 1992.** Debt-for-nature swaps: Axing the debt instead of the forests. *Intereconomics* 27(1):9-15.
 "Debt-for-nature swaps are one of the very few means available of alleviating developing countries' debt burden and at the same time saving at least part of the tropical forests." (p. 15)
- 368 Beebe, S. B., 1991.** Conservation in temperate and tropical rain forests: The search for an ecosystem approach to sustainability. In: *Transactions of the fifty-sixth North American Wildlife and Natural Resources Conference*, Edmonton, Mar. 17-22, 1991. Washington, DC, Wildlife Management Institute. pp. 595-603.
- 369 Bhumibhamon, S., 1991.** The socioeconomics of biological diversity. In: *10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area A. Revue Forestiere Francaise, Hors Serie no. 2*. pp. 569-576.
 "This paper outlines the importance of conservation and wise use of germplasm, as well as possible ways of analysing their socioeconomic value." (p. 569)

- 370 Blake, R. O., 1984.** Moist forests of the tropics: A plea for protection and development. *Journal '84*, World Resources Institute, pp. 34-49.
Discusses the need for a plan for multiple and sustainable use of tropical forests and outlines the means for developing such a plan.
- 371 Brewer, G. D., 1981.** The state's responsibility for the protection and preservation of forestry resources. In: Mergen, F., ed. *International symposium on tropical forests utilization and conservation: Ecological, sociopolitical and economic problems and potentials*. New Haven, CT, Yale University School of Forestry and Environmental Studies. pp. 103-107.
- 372 Browder, J. O., 1991.** Alternative rainforest uses. In: Tulchin, J. S., ed. *Economic development and environmental protection in Latin America*. Boulder, Lynne Rienner Publishers. pp. 45-54.
"There are three basic strategies for tropical forest land use that might link economic development and conservation objectives: plantation forestry, tropical agriculture and agroforestry, and natural forest management." (p. 46)
- 373 Browder, J. O., 1989.** Development alternatives for tropical rain forests. In: Leonard, H. J., ed. *Environment and the poor: Development strategies for a common agenda*. New Brunswick, NJ, Transaction Books. pp. 111-133.
"This chapter explores opportunities for tropical forest management that combine conservation and economic development objectives to meet the needs of poor people." (p. 112)
- 374 Browder, J. O., 1992.** The limits of extractivism: Tropical forest strategies beyond extractive reserves. *BioScience* 42(3):174-182.
The author challenges the view that extractive reserves will help save tropical forests on a meaningful scale. He concludes that "it is important that we think and act beyond the extractive reserves paradigm...and dedicate more resources to developing sustainable nonextractive income alternatives for small Amazonian farmers and ranchers..." (p. 181)
- 375 Browder, J. O., editor; 1989.** *Fragile lands of Latin America: Strategies for sustainable development*. Boulder, Westview Press. 301 pp.
Includes a section on "Strategies for tropical rainforest management."
- 376 Bruenig, E. F. and Poker, J., 1991.** Is sustainable utilization of the tropical evergreen moist forest possible? In: Erdelen, W. et al., eds. *Tropical ecosystems: Systems characteristics, utilization patterns, and conservation issues*. Proc. of the Internat. and Interdiscip. Symp., Saarbrücken, Ger., June 1989. Weikersheim, Verlag Josef Margraf. pp. 91-106

- 377 Budowski, G., 1984.** Biological diversity and forestation in the tropics. In: Wiersum, K. F., ed. Strategies and designs for afforestation, reforestation and tree planting. Wageningen, Pudoc. pp. 115-125.
Discusses the conflict between those who favor conservation of natural forest with a high biological diversity and those who favor establishment of single-species plantations.
- 378 Budowski, G., 1988.** Is sustainable harvest possible in the tropics? *American Forests* 94(11/12):34-37,79-81.
- 379 Budowski, G., 1982.** The role of tropical forestry in conservation and rural development. Turrialba, Costa Rica, Centro Agronomico Tropical de Investigacion y Ensenanza. 10 pp. Paper presented at the International Symposium on Traditional Life Styles, Conservation and Rural Development, Bandung, Indonesia, Oct. 1982. The author concludes that "protection of the remaining tropical forests should become the focus of forestry programs...." (p. 8)
- 380 Budowski, G., 1984.** The role of tropical forestry in conservation and rural development. In: Hanks, J., ed. Traditional life-styles, conservation and rural development: Proceedings of a symposium. IUCN Commission on Ecology Papers no. 7; Environmentalist vol. 4, Supplement 7:68-76.
This paper discusses ways in which foresters can reverse the trend toward destruction of the tropical forests.
- 381 Budowski, G., 1976.** Why save tropical rain forests? Some arguments for campaigning conservationists. *Amazoniana* 5(4):529-538.
- 382 Burand, D. K., 1989.** The debt-for-nature exchange: A tool for international conservation. Washington, DC, Conservation International. 45 pp.
The debt-for-nature exchange mechanism allows conservation organizations to help underwrite their conservation investments while simultaneously providing a way for a host country to reduce its external debt.
- 383 Burgess, P. F., 1989.** Asia. In: Poore, et al. No timber without trees: Sustainability in the tropical forest. London, Earthscan Publications Ltd. pp. 117-153.
Discusses sustainable forest management in the region.
- 384 Bushbacher, B. et al., 1990.** Sustainable Utilization of Tropical Forests Workshop. In: Proceedings of the Conference on Tropical Forestry Response Options to Global Climate Change, Sao Paulo, Brazil, Jan. 9-11, 1990. U.S. Environmental Protection Agency, Office of Policy Analysis. pp. 269-280.
- 385 Camara, I. de G., 1983.** Tropical moist forest conservation in Brazil. In: Sutton, S. L. et al. Tropical rain forest: Ecology and management. Oxford, Blackwell. British Ecological Society Special Publication no. 2. pp. 413-421.

386 Campbell, J. Y., 1987. Tropical forestry and biological diversity in India and the role of USAID/New Delhi. New Haven, CT, Yale School of Forestry and Environmental Studies, Tropical Resources Institute, TRI Working Paper no. 31. 73 pp.

This paper presents an overview of tropical forestry and biological diversity in India in 1987. It is divided into three sections: (1) Background information on forest policies and institutions; (2) tropical forestry priorities in India; and (3) biological diversity.

387 Campos A., J. J., 1991. The BOSCOA Project: A case study of sustainable natural resource management and community development in the Osa Peninsula, Costa Rica. In: Proceedings of the Humid Tropical Lowlands Conference: Development strategies and natural resource management, Panama City, June 1991. Vol. IV. Bethesda, MD, Development Strategies for Fragile Lands. pp. 37-48.

The Neotropica Foundation's BOSCOA Project began in 1988. Its aim is to preserve the forest cover in the Golfo Dulce Forest Reserve, the buffer zone for the Corcovado National Park in the Osa Peninsula, via the development and promotion of production alternatives suited to the region's ecological and socioeconomic conditions. (p. 39)

388 Cassells, D. S., Bonell, M., Gilmour, D. A., and Valentine, P. S., 1988. Conservation and management of Australia's tropical rainforests: Local realities and global responsibilities. In: The ecology of Australia's wet tropics. Proceedings of the Ecological Society of Australia 15:313-326.

"This paper outlines the historical development of land-use policies and practices that have influenced patterns of exploitation and conservation management in the north Queensland rainforest." (p. 313)

389 Castro, A. P., 1991. The southern Mount Kenya forest since independence: A social analysis of resource competition. World Development 19(12):1695-1704.

"Large forest reserves represent a long-standing state response to tropical forest destruction. There are, however, growing doubts about their effectiveness as sustainable resource management regimes. This case study uses a social and historical perspective to examine conflicts about the use and management of the Mount Kenya Reserve...since independence in 1963." (p. 1695)

390 Castro, C., editor, 1991. Upland conservation in Asia and the Pacific. Bangkok, Food and Agriculture Organization, Regional Office for Asia and the Pacific, RAPA Publication 1991/15. 114 pp.

The papers in this volume were drawn from the FAO/Finland Workshop on People's Participation in Upland Conservation, held in Bangkok, Nov. 22-30, 1988.

391 Chin, S. C., 1990. The system must change: The promotion of sustainable forest management in Sarawak. Wallaceana 61:1-8.

- 392 Collins, N. M., 1988.** The conservation and management of genetic resources. In: McDermott, M. J., ed. *The future of the tropical rain forest: Proceedings of an international conference*, Oxford, June 27-28, 1988. Oxford, UK, Oxford Forestry Institute. pp. 9-12.
 "Poor land use decisions, based on flawed economic evaluations, will inevitably lead to the loss of innumerable species...." (p. 10)
- 393 Conrad, J. M., 1991.** Economic strategies for coevolution: Parks, buffer zones and biodiversity. Cornell University, Department of Agricultural Economics, Working Papers in Agricultural Economics no. 91-8. 24 pp.
 Proposes a methodology "to explore the economic incentives that might support a coevolutionary strategy in the buffer zone to a park or preserve."
- 394 Conservation International, 1990.** *The rain forest imperative: A ten year strategy to save earth's most threatened ecosystems*. Washington, DC, Conservation International. 14 pp.
- 395 Cortez, M. C., 1991.** Sustainable development of the rainforests. *Asian Timber* 10(1):37-39.
 Discusses the pressures being exerted on the timber industries of Sabah and Sarawak by environmentalists.
- 396 Crome, F. H. J. and Redhead, T., 1990.** ITTO and the conservation of biological diversity in tropical forests: Issues and suggested elements of an action plan. Draft. [Yokohama, International Tropical Timber Organization.] 27 pp.
 Prepared for ITTO by F. H. J. Crome and T. Redhead, with assistance from C. Margules, S. Humphries, and J. Weaver, of the CSIRO Division of Wildlife and Ecology, Canberra and Atherton.
- 397 Cruz, W. and Repetto, R., 1992.** The environmental effects of stabilization and structural adjustment programs: The Philippine case. Washington, DC, World Resources Institute. 90 pp.
 "Based on their analysis, the authors conclude that structural adjustment policies, including trade liberalization and tariff reform, must be accompanied by other domestic policy changes to ensure sustainable use of natural resources." (p. viii)
- 398 Cruz, W. D. and Cruz, M. C. J., 1990.** Population pressure and deforestation in the Philippines. *ASEAN Economic Bulletin* 7(2):200-212.
 "This article evaluates increasing population pressure on forest lands, and analyses the requirements for promoting more conservation-oriented upland farming practices in the Philippines." (p. 200)
- 399 Daryadi, L., 1990.** The role of government in providing incentives for sustainable development of tropical forests. In: *ITTO Seminar on Sustainable Development of Tropical Forests*, Denpasar, Bali, May 1990. Permanent Committee on Reforestation and Forest Management, 7th Session, Yokohama, Nov. 1990. PCF(VII)/4. pp. 15-22.

- 400 Davidson, J., 1985.** Economic use of tropical moist forests. Gland, Switzerland, International Union for Conservation of Nature and Natural Resources, Commission on Ecology Papers no. 9. 28 pp.
The author concludes that the only sustainable uses of tropical forests are tourism, collection of seeds for cultivation elsewhere, and properly managed scientific research, and that "current efforts to establish strictly protected tropical forest reserves should be expanded...." (p. 26)
- 401 Davidson, J., 1990.** Values and uses: Seeing the forest through different eyes. In: Webb, L. J. and Kikkawa, J., eds. Australian tropical rainforests: Science, values, meaning. East Melbourne, CSIRO. pp. 124-132.
The author discusses the fact that different cultures give different values and meaning to the tropical rainforest in terms of their pre-existing ideas about it. He discusses biological, physical social values, uses of the tropical rainforest and their impacts on values. He concludes with a discussion of rainforest conservation and management.
- 402 Dogse, P. and Droste, B. von, 1990.** Debt-for-nature exchanges and biosphere reserves: Experiences and potential. Paris, Unesco, MAB Digest no. 6. 88 pp.
Begins with an explanation of the debt-for-nature concept followed by an evaluation of exchanges performed in connection with biosphere reserves using examples from Bolivia, Costa Rica, and Ecuador.
- 403 Eden, M. J., 1990.** Ecology and land management in Amazonia. New York, Belhaven Press. 269 pp.
This study focuses on the Amazonian forest region and its resources. Traditional and modern modes of land exploitation within the region are discussed. Alternative strategies for land exploitation and management are considered. "In particular, the desirability of achieving sustainable exploitation and of creating and maintaining national parks and other forms of reserved land is emphasized." (p. 3)
- 404 Eden, M. J., 1978.** Ecology and land development: The case of Amazonian rainforests. In: Transactions of the Institute of British Geographers. New Series 3(4):444-463. .
Assesses the ecological implications of contemporary land development in Amazonia and presents data on the forest system, indigenous modes of exploitation, and modern land use. An attempt is made "to formulate an ecologically based model for land development." (p. 445)
- 405 Elliott, C., 1991.** ITTO in the 1990s: Urgency or complacency? Gland, Switzerland, WWF International. 4 pp.
The author expresses concern that the activities of the International Tropical Timber Organization, which promotes the sustainable utilization of tropical forests, are not on a scale which is comparable with the problems facing tropical forests.
- 406 Elliott, C., 1991.** Sustainable tropical forest management by 1995. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area F, Part 1. Revue Forestiere Francaise, Hors Serie no. 7. pp. 209-214.

- 407 Elliott, C., 1991.** Tropical forest conservation. Gland, Switzerland, WWF International, Position Paper no. 7. 26 pp.
This position paper outlines WWF's views on what governments, development aid agencies and international organizations should do to save tropical forests. (p. 1)
- 408 Enabor, E. E., 1982.** Economics of tropical forest resources conservation. In: Srivastava, P. B. L. et al., eds. Tropical forests: Source of energy through optimization and diversification. Serdang, Selangor, Malaysia, Penerbit Universiti Pertanian Malaysia. pp. 51-61.
"This paper examines the economic justification and problems of tropical forest resources conservation." (p. 51)
- 409 Engel, J. R., 1990.** Rainforest as metaphor: The search for public ethics in the Australian wet tropics. In: Webb, L. J. and Kikkawa, J., eds. Australian tropical rainforests: Science, values, meaning. East Melbourne, CSIRO. pp. 150-160.
The author discusses the question: "What kind of ethics will conserve the natural environment...?" He relates the struggle to preserve the Indiana Dunes as a modern social experiment from which those who want to preserve Australian rainforests can learn.
- 410 Erdelen, W. and Ishwaran, N., 1991.** Information inputs to regulate use and conservation of tropical ecosystems: The need for organizational frameworks. In: Erdelen, W. et al., eds. Tropical ecosystems: Systems characteristics, utilization patterns, and conservation issues. Proc. of the Internat. and Interdiscip. Symp., Saarbrucken, Ger., June 1989. Weikersheim, Verlag Josef Margraf. pp. 195-202.
Emphasizes "the need for an increase in the efforts to create organizational frameworks that use research information to ensure sustainable use and conservation of tropical ecosystems, at the local and national levels over short-term and medium-term...." (p. 195)
- 411 Erdelen, W., 1988.** Forest ecosystems and nature conservation in Sri Lanka. *Biological Conservation* 43(2):115-135.
Problems related to the conservation of natural forests and the associated faunal communities in Sri Lanka are discussed.
- 412 Fearnside, P. M., 1985.** Deforestation and decision-making in the development of Brazilian Amazonia. *Interciencia* 10(5):243-247.
"The course of development must be brought under the control of national and coherent long range strategies to prevent highly undesirable environmental impacts from occurring as a result of unwise types, patterns, and scales of development." (p. 243)
- 413 Fearnside, P. M., 1983.** Development alternatives in the Brazilian Amazon: An ecological evaluation. *Interciencia* 8(2):65-78.
Among the conclusions is: "Development objectives in the Brazilian Amazon need to be carefully thought through, with reference to the long-term benefit of the region's population." (p. 75)

- 414 Fearnside, P. M., 1990.** Predominant land uses in Brazilian Amazonia. In: Anderson, A. B., ed. *Alternatives to deforestation: Steps toward sustainable use of the Amazon rain forest.* New York, Columbia University Press. pp. 233-251.
 "Policies are urgently needed to slow deforestation, to discourage unsustainable uses, and to make sustainable alternatives possible." (p. 233)
- 415 Fisher, A. C. and Hanemann, W. M., 1991.** Valuation of tropical forests. Berkeley, University of California, Dept. of Agricultural and Resource Economics, Working Paper no. 576. 37 pp.
 The author focuses on the goods and services produced by tropical forests in order to develop a framework for valuation. He discusses the major uses of tropical forests, in particular, looking at whether these uses are sustainable, whether they are compatible with forest preservation. He then links the valuation of tropical forests with decisions about their uses.
- 416 Folster, H. et al., 1986.** Conservation and sustainable use of tropical rainforests: Elements of a strategy against destruction of forests in the humid tropics. *Forschungsauftrag des Bundesministeriums für Wirtschaftliche Zusammenarbeit.* 251 pp.
 Report of a study group of the German Forestry Association, Committee for International Cooperation in Forestry and Wood Industries. Members of the study group were: H. Folster, P. F. von Furstenberg, H. Lamprecht, K. J. Peters, J. Pretzsch, S. Rehm, C. Reichert, H. H. Roth, H. J. Steinlin, and H. J. Weidelt.
- 417 Food and Agriculture Organization, 1982.** Conservation and development of tropical forest resources. Rome, Food and Agriculture Organization, FAO Forestry Paper no. 37. 122 pp.
 This paper is based on the FAO/UNEP/UNESCO Expert Meeting on Tropical Forests, Rome, Jan. 12-15, 1982. It includes the report of the meeting, the discussion paper "Harmonizing International Action in Support of National Efforts for Tropical Forest Resources Management," and a supplement to the discussion paper entitled "International Activities in the Field of Tropical Forestry."
- 418 Foresta, R. A., 1991.** Amazon conservation in the age of development: The limits of providence. Gainesville, FL, University of Florida Press. 366 pp.
 The author argues that fashioning successful biological conservation programs "will require an understanding of the basic shape of the political space within which conservation operates." (p. 2)
- 419 Freezailah, B. C. Y., 1990.** Perspectives on the sustainable development of tropical forests. In: International Union of Forest Research Organizations, 19th World Congress, Montreal, Aug. 5-11, 1990. Congress Report, Vol. B. Hull, Quebec, Forestry Canada, IUFRO Organizing Committee. pp. 326-336.
 The author, executive director of ITTO, calls for closer cooperation between organizations, institutions, governmental and nongovernmental organizations concerned with tropical forest conservation.

- 420 Fujisaka, S. and Wollenberg, E., 1991.** From forest to agroforest and logger to agroforester: A case study. *Agroforestry Systems* 14(2):113-129.
 In this case study, a tropical forest area was opened by logging and then settled by shifting cultivators. The settlers were forced to switch to a more sustainable mixed root and perennial tree cropping. The direction of the change and the sustainability of the emerging system reflected a process called "coevolution." (p. 113)
- 421 Furtado, J. I. and Ruddle, K., 1986.** The future of tropical forests. In: Polunin, N., ed. *Ecosystem theory and application*. New York, Wiley. pp. 145-171.
 Discusses tropical forest resources and ecosystem structure, and the prospects for successful conservation of tropical forests in the future.
- 422 Furtado, J. I. dos R., 1990.** The importance of applied ecology in national conservation strategies in the tropics. In: Goodland, R., ed. *Race to save the tropics: Ecology and economics for a sustainable future*. Washington, DC, Island Press. pp. 161-170.
 The World Conservation Strategy launched by the International Union for Conservation of Nature and Natural Resources in 1980 recommended that each country review the extent to which it is achieving nature conservation and natural resources management and that such a review should form the basis for a strategy for the sustainable development of natural resources.
- 423 Gamez, R. and Ugalde, A., 1988.** Costa Rica's national park system and the preservation of biological diversity: Linking conservation with socio-economic development. In: Almeda, F. and Pringle, C. M., eds. *Tropical rainforests: Diversity and conservation*. San Francisco, California Academy of Sciences; A.A.A.S., Pacific Division. California Academy of Sciences Memoir no. 12. pp. 131-142.
 "The preservation of biological diversity cannot be seen as unrelated to the social and economic needs of the country, which must be satisfied through a rational use of its natural resources." (p. 131)
- 424 Giaino, M. S., 1988.** Deforestation in Brazil: Domestic political imperative; global ecological disaster. *Environmental Law* 18(3):537-570.
 "Financial incentives, particularly those involving external funding dedicated to setting aside and maintaining forest reserves, appear to be the most appropriate measures for protecting the forest." (p. 537)
- 425 Gildegame, M. L., 1990.** Conserving tropical forest resources in the national park system of Costa Rica. Ph.D. thesis, Clark University; Ann Arbor, MI, University Microfilms International. 192 pp.
 The main focus of the thesis is on the role of the national park service of Costa Rica in conserving forest resources on the lands under its jurisdiction.

- 426 Gillis, M., 1991.** Sustainable development, natural resources, and the environment: Focus on tropical forest endowments. In: *Proceedings of the Humid Tropical Lowlands Conference: Development strategies and natural resource management*, Panama City, June 1991. Vol. I. Bethesda, MD, Development Strategies for Fragile Lands. pp. 1-15.
The author presents a brief view of the concept of sustainable development, followed by a discussion of the problem of tropical deforestation. He discusses some of the underlying causes of tropical deforestation in tropical countries and outlines some possible solutions.
- 427 Gillis, M., 1991.** Tropical deforestation: Economic, ecological, and ethical dimensions. *South Atlantic Quarterly* 90(1):7-38.
The author argues that "economic, ecological, and ethical rationales for sustainable use of tropical forest resources are not only closely interconnected, but mutually reinforcing." He concludes that economic arguments, the appropriate use of prices, natural resource accounting, and discount rates, are essential tools to be deployed in the interests of tropical forest conservation.
- 428 Gliessman, S. R., 1988.** Local resource use systems in the tropics: Taking pressure off the forests. In: Almeda, F. and Pringle, C. M., eds. *Tropical rainforests: Diversity and conservation*. San Francisco, California Academy of Sciences; A.A.A.S., Pacific Division. California Academy of Sciences Memoir no. 12. pp. 53-70.
"The importance of the sustainability of the natural resource sector linked to the sustainability of the agricultural sector is stressed as an integral part of tropical forest preservation strategies of the future." (p. 53)
- 429 Golley, F. B., 1983.** Ecodevelopment. In: Golley, F. B., ed. *Tropical rain forest ecosystems: Structure and function*. New York, Elsevier. *Ecosystems of the World* 14A. pp. 335-344.
Ecodevelopment is defined as "development of a locality taking the fullest sustainable advantage of that locality's physical, biological and cultural resources." (p. 335)
- 430 Gomez-Pompa, A. and Kaus, A., 1988.** Conservation by traditional cultures in the tropics. In: Martin, V., ed. *For the conservation of earth: [Proceedings] World Wilderness Congress, 4th, Denver, 1987*. Golden, CO, Fulcrum, Inc. pp. 183-189.
- 431 Goodland, R., 1990.** Environmental sustainability in economic development - with emphasis on Amazonia. In: Goodland, R., ed. *Race to save the tropics: Ecology and economics for a sustainable future*. Washington, DC, Island Press. pp. 171-189.
- 432 Goodland, R., editor, 1990.** *Race to save the tropics: Ecology and economics for a sustainable future*. Washington, DC, Island Press. 219 pp.
The preface states that this is the first book to be published on the subject of applied tropical ecology.
- 433 Goodland, R. J. and Irwin, H. S., 1977.** Amazonian forest and cerrado: Development and environmental conservation. In: Prance, G. T. and Elias, T. S. eds. *Extinction is forever: Threatened and endangered species of plants in the Americas and their significance in ecosystems today and in the future*. Bronx, New York Botanical Garden. pp. 214-233.

- 434 Goodland, R. J. A., 1992.** Neotropical moist forests: Priorities for the next two decades. In: Redford, K. H. and Padoch, C., eds. *Conservation of Neotropical forests: Working from traditional resource use*. New York, Columbia University Press. pp. 416-433.
Discusses four categories of solutions to the loss of Neotropical moist forests: 1) Population management; 2) economic incentives; 3) education/political pressure; and 4) site-specific alternatives.
- 435 Goodland, R. J. A., Asibey, E. O. A., Post, J. C., and Dyson, M. B., 1990.** Tropical moist forest management: The urgency of transition to sustainability. *Environmental Conservation* 17(4):303-318.
- 436 Goodland, R. J. A., Asibey, E. O. A., Post, J. A., and Dyson, M. B., 1991.** Tropical moist forest management: The urgency of transition to sustainability. In: Costanza, R., ed. *Ecological economics: The science and management of sustainability*. New York, Columbia University Press. pp. 486-515.
The authors "present the case for an urgent transition to sustainability by first, improving forest management at least to 'best practice'; second, by deflecting logging from primary to secondary forests; and third, beginning a phased transition to plantations...." (p. 486)
- 437 Goodson, J., 1988.** Conservation and management of tropical forests and biological diversity in Zaire. Kinshasa, Zaire, U.S. Agency for International Development. Various pagings.
Major outstanding issues related to biological conservation in Zaire include: 1) The geographical and ecological adequacy of the protected area system in terms of its representative coverage of biotic communities; 2) protected area management; 3) fuelwood consumption; and 4) prevailing deforestation extents and rates.
- 438 Gradwohl, J. and Greenberg, R., 1988.** *Saving the tropical forests*. Washington, DC, Island Press. 214 pp.
Following an introductory chapter on deforestation are case studies of projects relating to tropical forest conservation. The case studies are arranged under the following headings: Forest reserves, sustainable agriculture, natural forest management, and tropical forest restoration.
- 439 Grainger, A., 1988.** Tropical rain forest: Global resource or national responsibility? In: Martin, V., ed. *For the conservation of earth: [Proceedings] World Wilderness Congress, 4th, Denver, 1987*. Golden, CO, Fulcrum, Inc. pp. 94-99.
Discusses the difficulty in reconciling global concern about tropical rain forests with national needs.
- 440 Green, G., 1990.** Conservation through the looking glass: The case of Central America. In: Palo, M. and Mery, G., eds. *Deforestation or development in the Third World? Vol. III. Metsantutkimuslaitoksen Tiedonantoja no. 349; Scandinavian Forest Economics no. 32*. pp. 121-129.
This paper "briefly summarizes the environmental, social and economic factors which prevent conservation from achieving recognition as an established land use practice." (p. 121)

- 441 Green, G. C. and Barborak, J., 1987.** Conservation for development: Success stories from Central America. *Commonwealth Forestry Review* 66(1):91-102.
 "In spite of political instability, economic turmoil, civil strife, resource degradation and population growth in Latin America, successful conservation projects can be designed and implemented that can contribute to sustainable national development." (p. 101.) Four "conservation for development" projects are discussed in this paper.
- 442 Gregersen, H. and McGaughey, S. E., 1987.** Social forestry and sustainable development. In: Southgate, D. D. and Disinger, J. F., eds. *Sustainable resource development in the Third World*. Boulder, Westview Press. pp. 7-20.
 The use of social forestry programs may alleviate the problems of deforestation and fuelwood shortages in developing countries.
- 443 Gregersen, H., Lundgren, A., and Lindell, G., 1990.** Contributions of tropical forests to sustainable development: The role of industry and the trade. In: ITTO Seminar on Sustainable Development of Tropical Forests, Denpasar, Bali, May 1990. Permanent Committee on Reforestation and Forest Management, 7th Session, Yokohama, Nov. 1990. PCF(VII)/4. pp. 23-36.
 "This paper identifies a number of measures which industry and the trade can use to contribute to a sustainable use of forest resources and to the broader goals of sustainable development." (p. 26)
- 444 Gregersen, H. M. and Lundgren, A. L., 1990.** Forestry for sustainable development: Concepts and a framework for action. University of Minnesota, College of Natural Resources, Forestry for Sustainable Development Program, Working Paper no. 1. 17 pp.
 Begins with a definition of sustainable development, followed by a discussion of social forestry strategies considered within a watershed management framework.
- 445 Gregersen, H. M., Lundgren, A. L., and Lindell, G. R., 1990.** Contributions of tropical forests to sustainable development: The role of industry and the trade. University of Minnesota, College of Natural Resources, Dept. of Forest Resources, Forestry for Sustainable Development Program, Working Paper no. 6. 10 pp.
 "This paper identifies a number of measures which industry and the trade can use to contribute to a sustainable use of forest resources and to the broader goals of sustainable development." (p. ii)
- 446 Gregersen, H. M., 1981.** Environmental constraints versus economic gains in tropical forestry. In: Mergen, F., ed. *International symposium on tropical forests utilization and conservation: Ecological, sociopolitical and economic problems and potentials*. New Haven, CT, Yale University School of Forestry and Environmental Studies. pp. 108-124.
 The author discusses "ways in which technology, organization, and basic economic incentives can be changed to insure some minimum acceptable constraints on land while meeting the economic and political goals of the tropical countries." (p. 110)
- 447 Guess, A., 1991.** Amazonia in the nineties: Sustainable development or another decade of destruction? *Third World Quarterly* 12(3/4):1-24.
 Discusses the prospects for sustainable development in the region.

- 448 Guppy, N., 1983.** The case for an Organization of Timber Exporting Countries (OTEC). In: Sutton, S. L. et al., eds. *Tropical rain forest: Ecology and management*. Oxford, Blackwell. British Ecological Society Special Publication no. 2. pp. 459-462
The author proposes the formation of an organization, the aim of which would be to achieve cooperation between tropical rain forest countries for the purpose of preserving and managing their tropical forests.
- 449 Hadley, M. and Schreckenber, K., 1989.** Contributing to sustained resource use in the humid and sub-humid tropics: Some research approaches and insights. Paris, Unesco, MAB Digest no. 3. 55 pp.
An overview of recent, ongoing, and planned activities within the MAB framework pertaining to the ecology of humid and sub-humid tropical ecosystems, principally forests and savannas.
- 450 Haeruman, H., 1985.** Future of tropical forests in Indonesia, resolving land resources conflicts. In: Davidson, J. et al., eds. *The future of tropical rain forests in South East Asia*. Gland Switzerland, IUCN Commission on Ecology Papers no. 10. pp. 111-114.
Discusses the continuing depletion of tropical forests in Indonesia, and the effort to conserve some remaining forest as protection forest and nature reserves.
- 451 Halkett, J. C., 1988.** The role of New Zealand's Department of Conservation in the conservation and sustainable development of tropical forest resources. In: *Fiji's rainforests: Our heritage and future*. Proceedings of the 2nd National Conservation Congress, Suva, Fiji, June 9-10, 1988. Suva, National Trust for Fiji. vol. 1, pp. 129-134.
- 452 Hamilton, A. C. and Bensted-Smith, R., editors, 1989.** Forest conservation in the East Usambara Mountains, Tanzania. Cambridge, UK, International Union for Conservation of Nature and Natural Resources, World Conservation Union. 392 pp.
A volume in the IUCN Tropical Forest Programme series.
- 453 Hamilton, L. S., 1976.** Tropical rainforest use and preservation: A study of problems and practices in Venezuela. San Francisco, Sierra Club, International Series no. 4. 72 pp. + appendix + maps.
A report of a survey made in 1974/75 under contract to the United Nations Environment Programme.
- 454 Hansen, S., 1988.** Debt for nature swaps: Overview and discussion of key issues. [Washington, DC] World Bank, Environment Department Working Paper no. 1. 19 pp.
"The present debt situation of many LDCs possessing tropical forests is seen as an opportunity to trade off bad debt against habitat preservation."
- 455 Hartshorn, G. S., 1990.** A new approach to sustainable development of tropical forests. *Western Wildlands* 16(1):8-11.
Reports on a pilot project of the Tropical Science Center in Costa Rica that is investigating harvesting techniques that promote natural regeneration.

- 456 Hartshorn, G. S., 1983.** Wildlands conservation in Central America. In: Sutton, S. L. et al., eds. *Tropical rain forest: Ecology and management*. Oxford, Blackwell. British Ecological Society Special Publication no. 2. pp. 423-444.
Provides a country-by-country overview of the status of national parks and equivalent reserves in Central America.
- 457 Healy, R. G., 1988.** Economic considerations in nature-oriented tourism: The case of tropical forest tourism. Research Triangle Park, N.C., Southeastern Center for Forest Economics Research, FPEI Working Paper no. 39. 57 pp.
This study is based on investigations of tropical forest tourism in Costa Rica, Guatemala, Ecuador, and Dominica. One of the purposes of the study was to determine how nature-oriented tourism can play a role in improving the management of tropical forests.
- 458 Heiner, H., 1992.** The challenge of global forest management: Report from UNCED. *Journal of Forestry* 90(9):28-31.
A report from the Earth Summit in Rio de Janeiro by the associate director of the International Society of Tropical Foresters. Discusses the Forest Principles document which provides countries with a set of international guidelines for the sustainable management of forests.
- 459 Henning, D. H., 1991.** Tropical forest values of protected areas. *Tigerpaper* 18(4):24-32.
"This paper identifies and describes some of the values associated with tropical rain forests in their natural and near natural conditions of protected areas." (p. 24)
- 460 Higuchi, Y. and Umahashi, N., 1987.** The campaign against 3rd world forest resources exploitation by Japan. In: *Proceedings of the Conference on Forest Resources Crisis in the Third World*, Penang, Malaysia, Sept. 6-8, 1986. Penang, Sahabat Alam Malaysia. pp. 360-377.
Discusses the conservation efforts of Japan's Committee on Asian Tropical Forests
- 461 Holmberg, J., Bass, S., and Timberlake, L., 1991.** *Defending the future: A guide to sustainable development*. London, IIED/Earthscan Publications. 40 pp.
Part 1 is a discussion of the concept of sustainable development. Part 2 relates the concept to present trends and conditions regarding land, farms, forests, water, climate and energy, cities, people and poverty.
- 462 Houseal, B. L., 1991.** Biosphere reserves: The basis for large landscape conservation in Central America. In: *Proceedings of the Humid Tropical Lowlands Conference: Development strategies and natural resource management*, Panama City, June 1991. Vol. I. Bethesda, MD, Development Strategies for Fragile Lands. pp. 31-44.
An appendix lists, and briefly describes, the existing and potential biosphere reserves in Central America.

- 463 Hyman, E. L., 1984.** Land-use planning to help sustain tropical forest resources. *World Development* 12(8):837-847.
The author maintains that although suitable planning techniques are available, for a number of reasons, they have not been used to their full potential in tropical countries. Six of these reasons are discussed.
- 464 Hyman, E. L., 1986.** Opportunities and constraints for organizations to help sustain tropical forest resources. *Environmental Management* 10(1):11-20.
"This article reviews the activities of key organizations that make decisions that directly or indirectly affect the sustainability of tropical forest resources and discusses opportunities and constraints facing these organizations." (p. 11)
- 465 Imbach, A. C. and Godoy, J. C., 1992.** Progress in the management of buffer zones in the American tropics: Proposals to increase the influence of protected areas. *Parks* 3(1):19-22.
Discusses the buffer zone concept and presents case studies from Costa Rica, Panama, Guatemala, and Ecuador.
- 466 Indonesia Department of Forestry and IIED, 1985.** A review of policies affecting the sustainable development of forest lands in Indonesia. Jakarta, Government of Indonesia and International Institute for Environment and Development. 4 vols. + Executive Summary.
Cover title: "Forest policies in Indonesia: The sustainable development of forest lands." This review is concerned with the development, sustainable use and conservation of the forest lands of Indonesia.
- 467 International Hardwood Products Association, 1991.** The world's tropical forests: A renewable resource. Alexandria, VA, International Hardwood Products Association. 14 pp.
On cover: "How the forest products industry and governments are working to sustain the forests and meet local needs." Undated; received in library, 1991.
- 468 International Tropical Timber Organization, 1992.** Criteria for the measurement of sustainable tropical forest management. Yokohama, International Tropical Timber Organization, ITTO Policy Development Series no. 3. 5 pp.
- 469 International Tropical Timber Organization, 1992.** ITTO guidelines for the sustainable management of natural tropical forests. Yokohama, International Tropical Timber Organization, ITTO Policy Development Series no. 1. 18 pp.
"These guidelines contain a set of principles which constitutes the international reference standard established by ITTO for the development of more specific guidelines, at the national level, for sustainable management of natural tropical forests for timber production." (p. 1)
- 470 International Union for Conservation of Nature, 1980.** Save the rainforests. IUCN Bulletin n.s. 11(5):17-32.
A special issue. Includes a statement prepared for the meeting of tropical moist forest experts held in Nairobi in February and March 1980.

- 471 Johns, A. D., 1992.** Species conservation in managed tropical forests. In: Whitmore, T. C. and Sayer, J. A., eds. Tropical deforestation and species extinction. New York, Chapman & Hall. pp. 15-53.
- 472 Johns, A. D., 1989.** Timber, the environment and wildlife in Malaysian rain forests. Final report. University of Aberdeen, Institute of South-East Asian Biology. 111 pp.
Discusses the need for integrating forestry and wildlife conservation and the adoption of sustainable harvesting operations.
- 473 Johnson, B., Earhart, J. J., and Oldfield, S., 1987.** Project concepts to promote the utilization and conservation of tropical forests. [Gland, Switzerland, World Wildlife Fund.] Various pagings.
These nine short "concept papers" were commissioned by the World Wildlife Fund and IUCN as a contribution to the deliberations of governments and international development agencies at the third session of the International Tropical Timber Council, Yokohama, Nov. 1987.
- 474 Johnson, B., 1991.** Responding to tropical deforestation: An eruption of crises - An array of solutions. Baltimore, MD, World Wildlife Fund. 63 pp.
Discusses the extent, causes, and consequences of tropical deforestation, and governmental response to the deforestation crisis. The final chapter presents a "global strategy for the conservation of tropical forests."
- 475 Jorge Padua, M. T., 1992.** Expanding the system of conservation areas in the Brazilian Amazon. *Parks* 3(1):23-26.
Reports on a recent study, "Cost of Implementing Conservation Units in Legal Amazonia," which was to estimate the cost of establishing Federal Conservation Units across 30% of Amazonia. The cost was estimated at \$12,782,973,550.
- 476 Katzman, M. T. and Cale, W. G., Jr., 1988.** Economic incentives for tropical forest preservation: Why and how? *Journal of Agricultural Ethics* 1(4):257-273.
The author reviews the arguments in favor of and against habitat preservation and proposes some "innovative institutions that can both satisfy developmental aspirations and account for the global benefits of habitat preservation." (p. 257)
- 477 Katzman, M. T. and Cale, W. G., Jr., 1990.** Tropical forest preservation using economic incentives: A proposal of conservation easements. *BioScience* 40(11):827-832.
"Advanced industrial nations must compensate tropical nations if they preserve tropical forests." (p. 827)
- 478 Keay, R., 1990.** Tropical rain forest in perspective. *Science and Public Affairs* 5(3):69-75.
A general discussion about the exploitation of tropical rain forests is followed by suggestions for rain forest conservation.
- 479 Kemp, R. H., 1990.** Consumer-related incentives to the sustainable management of natural tropical forests. In: ITTO Seminar on Sustainable Development of Tropical Forests, Denpasar, Bali, May 1990. Permanent Committee on Reforestation and Forest Management, 7th Session, Yokohama, Nov. 1990. PCF(VII)/4. pp. 37-52.

- 480 Kemp, R. H., 1992.** The conservation of genetic resources in managed tropical forests. *Unasylva* 43(169):34-40.
 "It is national governments who hold the power to formulate the necessary policies in land and resource use for sustainable forest management and conservation of the nation's genetic resources." (p. 35)
- 481 Kio, P. R. O., 1982.** Forest conservation strategies for tropical Africa. In: MacDonald, L. H., ed. *Agro-forestry in the African humid tropics: Proceedings of a workshop held in Ibadan, Nigeria, Apr. 27-May 1, 1981.* Tokyo, United Nations University. pp. 36-40.
 Discusses forest resources, forest destruction, management and utilization and concludes with some suggestions for forest conservation strategies, including the use of agroforestry systems to replace the destructive features of shifting cultivation.
- 482 Knapp, G. B., Kremkau, K., and Dixon, F., 1991.** [Sustainable forest management on private farms in the humid tropics: A study in the area of Chanquinola (Panama) and Talamanca (Costa Rica).] *El Chasqui* 26:5-25.
 In Spanish, with English summary.
- 483 Laarman, J., 1991.** International financing mechanisms for conservation of biological diversity. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area A. *Revue Forestiere Francaise, Hors Serie no. 2.* pp. 595-603.
 The author concludes that financing mechanisms to fund biological diversity are presently inadequate. Principal channels of conservation financing include the Tropical Forestry Action Plan, funding generated by the international conservation organizations, and various taxes and fees from commercial use of wildland resources.
- 484 Ledec, G. and Goodland, R., 1988.** *Wildlands: Their protection and management in economic development.* Washington, DC, World Bank. 278 pp.
 The World Bank instituted a policy in 1986 that formally recognized that "provision for some kind of wildland management should be part of any development project that affects wildlands and that wildland management should be considered in economic and sectoral planning." (p. ix.) The importance of wildlands for sustainable development and improved human well-being is discussed.
- 485 Lewis, S., 1990.** *The rainforest book: How you can save the world's rainforests.* Los Angeles, Living Plant Press. 112 pp.
 Discusses tropical deforestation and what can be done to protect the tropical forests.
- 486 Lovejoy, T., 1991.** Tropical forests - Target 2000: Conservation vs. development; searching for solutions to the dilemma. *Weekly Hardwood Review* 7(4):1,19,21.
 Target 2000 is the goal of the International Tropical Timber Organization to produce tropical timber for export from sustainably managed forests by the year 2000.

- 487 Lugo, A. E., 1989.** Biosphere reserves in the tropics: An opportunity for integrating wise use and preservation of biotic resources. In: Proceedings of the Symposium on Biosphere Reserves, Fourth World Wilderness Congress, Estes Park, CO, Sept. 11-18, 1987. Atlanta, GA, National Park Service. pp. 53-67.
Discusses the biosphere reserve concept of the Man and Biosphere Program which, the author contends, "offers the ideal framework to integrate conservation efforts in tropical countries." (p. 53)
- 488 Lugo, A. E., Clark, J. R., and Child, R. D., editors, 1987.** Ecological development in the humid tropics: Guidelines for planners. Mcrrilton, AR, Winrock International Institute for Agricultural Development. 362 pp.
The objective of this book is to "provide expert guidance in planning and managing for sustainable development through the managing and conserving [of] renewable resources." (p. v)
- 489 Lugo, A. E., 1991.** The tropical challenge to ecological economics. In: Bradley, D. P. and Nilsson, P. O., eds. Ecological economics: Its implications for forest management and research: Proc. of a workshop, St. Paul, April 1990. Garpenberg, Sver. Lantbruksuniv., Inst. for Skogstek. Upps. och Res. no. 223. pp. 200-205.
One of the questions discussed is, "How much area of forests can or should be sacrificed in the search for sustainable development in the tropics?"
- 490 MacKinnon, D. A., 1990.** Using the private sector for sustainable forestry development. Research Triangle Park, NC, Southeastern Center for Forest Economics Research, FPEI Working Paper no. 51. 15 pp.
Discusses the work of the Forestry Private Enterprise Initiative (FPEI) which was established by U.S. AID in 1984. FPEI focused on Ecuador from mid-1985 until the end of 1988. The project was moved to Guatemala in 1989.
- 491 MacKinnon, J., MacKinnon, K., Child, G., and Thorsell, J., compilers, 1986.** Managing protected areas in the tropics. Gland, Switzerland, International Union for Conservation of Nature and Natural Resources. 295 pp.
A guide to help those concerned with the planning and management of natural protected areas in tropical countries.
- 492 Mahoney, R., 1992.** Debt-for-nature swaps: Who really benefits? *Ecologist* 22(3):97-103.
The author concludes that debt-for-nature swaps "benefit mainly the European and US banks who are selling the debt at discount prices." (p. 97).
- 493 Martin, C., 1991.** The rainforests of West Africa: Ecology, threats, conservation. Boston, Birkhauser Verlag. 235 pp.
Discusses the biology and utilization of the forests, cultural background and conservation.

- 494 McGaughey, S. E. and Gregersen, H. M., 1988.** Investment policies and financing mechanisms for sustainable forestry development. Washington, DC, Inter-American Development Bank. 126 pp.
Reviews developments in forest financing in several Latin American countries and elsewhere.
- 495 McNeely, J. A. and Dobias, R. J., 1991.** Economic incentives for conserving biological diversity in Thailand. *Ambio* 20(2):86-90.
"New incentives were defined for each sector [forestry, protected areas, marine fisheries, mangroves, and nature tourism] along with changes in government policies to be included in Thailand's Seventh Five-Year Plan." (p. 86)
- 496 McNeely, J. A. and MacKinnon, J. R., 1990.** Protected areas, development, and land use in the tropics. In: Furtado, J. I. et al., eds. *Tropical resources: Ecology and development*. New York, Harwood Academic Publishers. pp. 191-208.
"This chapter outlines an expanded rationale for protected areas and shows how they help to sustain human society, thereby contributing to the conservation and development of living natural resources in the tropics." (p. 192.) Reprinted from *Resource Management and Optimization* 7(1-4):191-208.
- 497 McNeely, J. A., 1988.** Economics and biological diversity: Developing and using economic incentives to conserve biological resources. Gland, Switzerland, International Union for Conservation of Nature and Natural Resources. 236 pp.
This report "describes mechanisms which will enable sustainable forms of economic development to contribute positively to conservation of biological diversity." (p. iv)
- 498 Mergen, F., editor, 1981.** International symposium on tropical forests utilization and conservation: Ecological, sociopolitical and economic problems and potentials. New Haven, CT, Yale University, School of Forestry and Environmental Studies. 199 pp.
Proceedings of an international symposium held at Yale University, School of Forestry and Environmental Studies, Apr. 15-16, 1980. The proceedings are organized into three sections: (1) Status of conditions in the tropical forests; (2) economic and sociopolitical aspects; and (3) ecological implications.
- 499 Miller, K. and Tangley, L., 1991.** *Trees of life: Saving tropical forests and their biological wealth*. Boston, Beacon Press. 218 pp.
A World Resources Institute guide to the environment.
- 500 Mok, S. T., 1977.** Forest management strategies for sustained maximum socio-economic benefits. *Malaysian Forester* 40(1):14-26.
- 501 Mok, S. T., 1992.** Potential for sustainable tropical forest management in Malaysia. *Unasylva* 43(169):28-33.

- 502 Moran, K., 1992.** Debt-for-nature swaps: A response to debt and deforestation in developing countries? In: Downing, T. E. et al., eds. *Development or destruction: The conversion of tropical forest to pasture in Latin America*. Boulder, Westview Press. pp. 305-316.
- 503 Musinsky, J., 1991.** The design of conservation corridors in Monteverde, Costa Rica. Yale University, School of Forestry and Environmental Studies, Tropical Resources Institute, TRI Working Paper no. 60. 74 pp. + computer disk.
 "This paper examines some of the major problems that confront effective conservation efforts in the region, and proposes a unique approach that utilizes GIS analysis for the design of forest corridors for the Monteverde Cloud Forest Reserve." (p. i)
- 504 Myers, N., 1983.** Conservation of rain forests for scientific research, for wildlife conservation, and for recreation and tourism. In: Golley, F. B., ed. *Tropical rain forest ecosystems: Structure and function*. New York, Elsevier. *Ecosystems of the World 14A*. pp. 325-334.
- 505 Myers, N., 1982.** Forest refuges and conservation in Africa; with some appraisal of survival prospects for tropical moist forests throughout the biome. In: Prance, G. T., ed. *Biological diversification in the tropics*. New York, Columbia University Press. pp. 658-672.
 The author reviews the conservation prospects for Africa's forest refuges.
- 506 Myers, N., 1987.** The environmental basis of sustainable development. *Annals of Regional Science* 21(3):33-43.
- 507 Myers, N., 1989.** The environmental basis of sustainable development. In: Schramm, G. and Warford, J. J., eds. *Environmental management and economic development*. Baltimore, Johns Hopkins University Press. pp. 57-68.
 The issue of deforestation is used as an example to illustrate the environmental/economic linkage.
- 508 Myers, N., 1992.** The primary source: Tropical forests and our future. "Expanded" ed. New York, W. W. Norton. 416 pp.
 A new prologue and epilogue have been added to the original edition. The author discusses the current status of tropical forests and the actions needed to be taken to preserve them.
- 509 Myers, N., 1976.** Tropical deforestation and a mega-extinction spasm. In: Soule, M. E., ed. *Conservation biology: The science of scarcity and diversity*. Sunderland, MA, Sinauer. pp. 394-409.
 The author begins with an account of the present extent of tropical moist forests. He then discusses the ecological character of these forests and the scope of their biological diversity. He looks at the rate of tropical forest conversions, the issue of extinctions, and the conservation response.

- 510 Myers, N., 1990.** Tropical forestry for sustainable development. University of Minnesota, College of Natural Resources, Dept. of Forest Resources, Forestry for Sustainable Development Program, Working Paper no. 7. 11 pp.
- 511 Nair, P. K. R., 1982.** Agroforestry: A sustainable land-use system for the fragile ecosystems in the tropics. *Malayan Nature Journal* 35(1-2):109-123.
Discusses deforestation in the tropics and the contribution that agroforestry can make to slow this process.
- 512 Nair, P. K. R., 1990.** Agroforestry: An approach to sustainable land use in the tropics. In: Altieri, M. A. and Hecht, S. B., eds. *Agroforestry and small farm development*. Boca Raton, FL, CRC Press. pp. 121-135.
- 513 Nations, J. D. and Komer, D. I., 1983.** Central America's tropical rainforests: Positive steps for survival. *Ambio* 12(5):232-238.
Discusses a number of projects involving local populations which utilize the rainforests of Central America in a sustainable manner.
- 514 Nations, J. D., 1990.** Protected areas in tropical rainforests: Five lessons. In: Head, S. and Heinzman, R., eds. *Lessons of the rainforest*. San Francisco, Sierra Club Books. pp. 208-216.
- 515 Newman, A., 1990.** Tropical rainforest: A world survey of our most valuable and endangered habitat with a blueprint for its survival. New York, Facts on File. 256 pp.
The author reviews the ecology of the rainforest, threats to the forests from agriculture, international logging, and fuelwood collection, and the loss of biological diversity as the rainforests disappear. He follows with a discussion of conservation measures that can be taken relative to habitat preservation, stabilizing the migrant cultivator, international logging, and wood production.
- 516 Newmark, W. D., editor, 1991.** The conservation of Mount Kilimanjaro. Cambridge, UK, International Union for Conservation of Nature, 136 pp.
A publication in the IUCN Tropical Forest Programme series. This book is a result of a symposium organized by the College of African Wildlife Management, Mweka, and held in Mushi, Tanzania in 1989.
- 517 Ng, F. S. P., 1983.** Ecological principles of tropical lowland rain forest conservation. In: Sutton, S. L. et al., eds. *Tropical rain forest: Ecology and management*. Oxford, Blackwell. British Ecological Society Special Publication no. 2. pp. 359-375.
- 518 Norgaard, R. B., 1990.** The development of tropical rainforest economics. In: Head, S. and Heinzman, R., eds. *Lessons of the rainforest*. San Francisco, Sierra Club Books. pp. 171-183.
The author contends that "economic development in tropical rainforests has almost always been a disaster", and discusses some "misconceptions" in economic thinking. He concludes with a discussion of the requirements for sustainable tropical rainforest development.

- 519 Oldfield, S., 1988.** Buffer zone management in tropical moist forests: Case studies and guidelines. Gland, Switzerland, International Union for Conservation of Nature and Natural Resources. 49 pp.
 Most managers of protected areas in the tropics are aware that they must consider the needs of local people, and most management plans now include "buffer-zone" activities that involve an interaction with local communities. In reality, however, plans for such activities have rarely been implemented.
- 520 Onis, J. de, 1992.** The green cathedral: Sustainable development of Amazonia. New York, Oxford University Press. 280 pp.
 Includes a chapter on deforestation and sustainable forestry.
- 521 Ortiz-Crespo, F., 1989.** The future of the tropical forests. In: Holm-Nielsen, L. B. et al., eds. Tropical forests: Botanical dynamics, speciation and diversity. New York, Academic Press. pp. 335-337.
 Discusses sustainable development in the tropical forests of Ecuador.
- 522 Oxford Forestry Institute, 1991.** Pre-project report on incentives in producer and consumer countries to promote sustainable development of tropical forests. [Yokohama] International Tropical Timber Organization, PPR 22/91. 71 pp.
 Report prepared by the Oxford Forestry Institute in association with the Timber Research and Development Association. The purpose of the study was "to investigate the possibility of offering incentives to different categories of people in consumer and producer countries to manage tropical forest for sustained production of the many tangible and intangible benefits that it provides."
- 523 Palmer, J., 1989.** Management of natural forest for sustainable timber production: A commentary. In: Poore, D. et al. No timber without trees: Sustainability in the tropical forest. London, Earthscan Publications Ltd. pp. 154-189.
- 524 Palo, M. and Salmi, J., 1988.** Deforestation or development in the Third World? Volume II. Metsantutkimuslaitoksen Tiedonantoja 309. 182 pp.
- 525 Patterson, A., 1990.** Debt for nature swaps and the need for alternatives. *Environment* 32(10):5-13,31-32.
 Debt-for-nature swaps were first proposed in 1984 as an innovative way to link debt reduction with environmental protection measures in heavily indebted developing countries.
- 526 Pearce, D. and Myers, N., 1990.** Economic values and the environment of Amazonia. In: Goodman, D. and Hall, A., eds. The future of Amazonia: Destruction or sustainable development? London, Macmillan. pp. 383-404.
 The authors conclude that "while the Amazon forests are vital to development as properly understood, so too is proper development of the Amazon forests vital to their continued existence. They may be accorded development of an enduring kind to the extent that they are enabled to demonstrate their full spectrum of goods and services." (p. 403).

- 527 Pearce, D., Barbier, E., and Markandya, A., 1990.** Sustainable development: Economics and environment in the Third World. Brookfield, VT, Edward Elgar Pub. Co. 217 pp.
The authors' purpose is "to give some structure to the concept of sustainable development and to illustrate ways in which environmental economics can be applied in the developing world." (p. x.) Includes a chapter on sustainable forest management in the outer islands of Indonesia, and another on sustainable management of Amazonia.
- 528 Perez M., C. I., 1990.** Debt for nature swaps to promote sustainable development. In: Proceedings of the Conference on Tropical Forestry Response Options to Global Climate Change, Sao Paulo, Brazil, Jan. 9-11, 1990. U.S. Environmental Protection Agency, Office of Policy Analysis. pp. 223-230.
"The so-called debt-for-nature swaps have proven to be one of the most innovative and effective alternatives to create value in the form of local currency bonds that yield resources that can be utilized to transform the debt problem into new opportunities to support conservation, resource management and reforestation." (p. 225.) An example from Costa Rica is presented.
- 529 Poore, D. et al., 1989.** No timber without trees: Sustainability in the tropical forest. London, Earthscan Publications Ltd. 252 pp.
This book is based on a study done for the International Tropical Timber Organization. The study examined natural forests that are being sustainably managed for timber production and identified ways to extend desirable practices. The study places management of timber in the wider context of tropical forest conservation. Co-authors are P. Burgess, J. Palmer, S. Rietbergen, and T. Synnott.
- 530 Poore, D., 1989.** Queensland, Australia: An approach to successful sustainable management. In: Poore, D., et al. No timber without trees: Sustainability in the tropical forest. London, Earthscan Publications Ltd. pp. 28-39.
- 531 Poore, D., 1989.** The sustainable management of tropical forest: The issues. In: Poore, D. et al. No timber without trees: Sustainability in the tropical forest. London, Earthscan Publications Ltd. pp. 1-27.
- 532 Poore, D., 1976.** The values of tropical moist forest ecosystems and the environmental consequences of their removal. *Unasylva* 28(112/113):127-143.
- 533 Poore, D., 1979.** The values of tropical moist forest ecosystems and the environmental consequences of their removal. *Sri Lanka Forester* 14(1-2):15-36.
The author concludes that if the greatest benefit is to be derived from the tropical moist forests and the undesirable consequences avoided, three things are necessary: Good planning for the allocation and use of land; high standards in the conversion from one use to another; and good management.
- 534 Poore, D., 1977.** The values of tropical moist forest ecosystems and the environmental consequences of their removal. *Philippine Lumberman* 23(5):31,33-38. Part 2: *Philippine Lumberman* 23(6):29-34,36-38.

- 535 Poore, D., 1976.** The values of the tropical moist forest ecosystems and the environmental consequences of their removal. [Rome] Food and Agriculture Organization, Committee on Forest Development in the Tropics, 4th session, Rome, Nov. 15-20, 1976. FO/FDT/76/8a. 39 pp.
The purpose of this paper is to assess the probable environmental effects of removal of tropical moist forest and to suggest ways in which development can be planned to produce the greatest possible benefits and the least harmful consequences.
- 536 Poore, D., 1978.** Values of tropical moist forests. In: Papers for Conference on Improved Utilization of Tropical Forests, Madison, May 21-26, 1978. U.S. Forest Products Laboratory. pp. 39-61.
- 537 Poore, D., 1978.** Values of tropical moist forests. In: Proceedings of Conference on Improved Utilization of Tropical Forests, Madison, May 21-26, 1978. U.S. Forest Products Laboratory. pp. 84-105.
- 538 Poore, M. E. D., 1990.** Sustainability in the tropical forest. *Journal of the Institute of Wood Science* 12(2):103-106.
Discusses the conditions necessary to attain sustainable management for timber production.
- 539 Popkin, A. B., 1981.** State responsibility for protection and preservation of forestry resources. In: Mergen, F., ed. *International symposium on tropical forests utilization and conservation: Ecological, sociopolitical and economic problems and potentials.* New Haven, CT, Yale University School of Forestry and Environmental Studies. pp.95-102.
The author discusses the contribution that international law, and particularly the international legal doctrine of state responsibility, can make to the prevention and reversal of deforestation.
- 540 Prance, G. T., 1990.** Future of the Amazonian rainforest. *Futures* 22(9):891-903.
The author suggests "ways to build a sustainable long-term future for the region. These include: The creation of larger conservation areas and indigenous reserves; the adaptation of indigenous agroforestry techniques...; the restoration with sustainable timber plantations of areas which have already been destroyed; the increase of extractivist reserves..." (p. 891)
- 541 Pritzker, A., 1982.** Conservation based rural development issues in the context of tropical afforestation and reforestation. In: Bruenig, E. F., ed. *Transactions of the Third International MAB/IUFRO Workshop on Ecosystems Research, Kyoto, Sept. 9-10, 1981.* Bonn, German National Committee for the Unesco Program "Man and the Biosphere." pp. 85-93.
- 542 Programme on Man and the Biosphere, 1974.** International Working Group on Project 1: Ecological effects of increasing human activities on tropical and sub-tropical forest ecosystems. Final Report. Paris, Unesco, MAB Report Series no. 16. 96 pp.
Report of a meeting of an international MAB working group held in Rio de Janeiro, Feb. 11-15, 1974. The working group was charged to identify problems of common concern to a number of tropical countries.

- 543 Pullan, R. A., 1988.** Conservation and the development of national parks in the humid tropics of Africa. *Journal of Biogeography* 15(1):171-183.
 "It is proposed that only one large national park is required in each country within the lowland humid forests and that biosphere reserves are more appropriate for other conserved areas in these forests." (p. 171)
- 544 Pushparajah, M., 1986.** Tropical humid forests as timber resources and its implications on conservation with particular reference to Sri Lanka. *Sri Lanka Forester* 17(3-4):70-81.
 Discusses tropical forest conservation in Sri Lanka.
- 545 Putz, F. E., 1988.** Blueprint for saving tropical forest. *Garden* 12(2):2-5,32.
 Discusses the elements of sustainable forest management.
- 546 Pyatt, N. and Williams, J., editors, 1991.** Tropical forestry: Third world priorities versus western concerns: Proceedings of the 1990 International Student Forestry Symposium, University of Wales, Jan. 1990. Bangor, University of Wales, 113 pp. + tables.
 One of the purposes of the symposium was to assess the most recent evidence of the severity of tropical deforestation. Also discussed was the possibility of managing forests sustainably for production and conservation if more resources were devoted to that objective.
- 547 Radcliffe, D. A., 1990.** Conserving wild nature: Purpose and ethics. In: Webb, L. J. and Kikkawa, J., eds. *Australian tropical rainforests: Science, values, and meaning*. East Melbourne, CSIRO. pp. 142-149.
 Discusses tropical rainforest conservation.
- 548 Repetto, R., 1987.** Creating incentives for sustainable forest development. *Ambio* 16(2-3):94-99.
 "Rapid deforestation in the Third World is rooted in development patterns... Both development and environmental goals can be served by policy improvements to promote more sustainable forest development." (p. 94)
- 549 Repetto, R., 1989.** Economic incentives for sustainable production. In: Schramm, G. and Warford, J. J., eds. *Environmental management and economic development*. Baltimore, Johns Hopkins University Press. pp. 69-86.
- 550 Repetto, R., 1990.** Incentives for sustainable forest management. In: Woodwell, G. M., ed. *The earth in transition: Patterns and processes of biotic impoverishment*. New York, Cambridge University Press. pp. 239-255.
 "Both development and environmental goals can be served by policy improvements to promote sustainable forest development." (p. 254)
- 551 Rich, B. M., 1985.** The multilateral development banks, environmental policy, and the United States. *Ecology Law Quarterly* 12(4):681-745.
 This article examines how the United States can encourage increased attention within the multilateral development banks to sound management of the environment and natural resources (including tropical forest resources). The article focuses on the World Bank.

- 552 Rietbergen, S., 1989.** Africa. In: Poore, D. et al. No timber without trees: Sustainability in the tropical forest. London, Earthscan Publications Ltd. pp. 40-73.
Discusses sustainable forest management in the African humid tropics.
- 553 Roche, L., 1979.** Forestry and the conservation of plants and animals in the tropics. *Forest Ecology and Management* 2(2):103-122.
"The greatest contribution that the forestry profession can make to conservation in the tropics...is to ensure that as large an area as possible of representative natural forest ecosystems is brought under management." (p. 103)
- 554 Rollet, B., 1992.** [The future of trees in tropical societies: Ideas for a forest conservation policy] *Bois et Forêts des Tropiques* 232:5-14.
The author outlines three areas necessary to a tropical conservation program: Planting, training, and conserving. In French, with English summary.
- 555 Rose, D. W., 1989.** Agriculture and forestry in the context of sustainable development. University of Minnesota, College of Natural Resources, Forestry for Sustainable Development Program, Working Paper no. 5. 11 pp.
- 556 Roumasset, J. A., 1991.** Natural resource management for sustainable development in the Philippines. *Journal of Agricultural Economics and Development* 21(1):1-13.
- 557 Rubinoff, I., 1983.** A strategy for preserving tropical forests. In: Sutton, S. L. et al., eds. *Tropical rain forest: Ecology and management.* Oxford, Blackwell. British Ecological Society Publication no. 2. pp. 465-476.
The author proposes the establishment of an internationally financed system of Tropical Moist Forest Reserves.
- 558 Rubinoff, I., 1983.** A strategy for preserving tropical rainforests. *Ambio* 12(5):255-258.
The author proposes the establishment of an internationally financed system of Tropical Moist Forest Reserves.
- 559 Rubinoff, I., 1982.** Tropical forests: Can we afford not to give them a future? *Ecologist* 12(6):253-258.
"The purpose of this paper is to propose a strategy that would preserve a sample of the world's remaining tropical forests through the establishment of an internationally financed system of Tropical Moist Forest Reserves." (p. 253)
- 560 Ruitenbeek, H. J., 1990.** Economic analysis of tropical forest conservation initiatives: Examples from West Africa. Godalming, Surrey, UK, World Wide Fund for Nature. 33 pp.
This paper highlights the relevance of a more comprehensive valuation of tropical forests than a simple focus on the value of harvested timber. Sustained forest use, subsistence production of crops, tourism, flood control, soil productivity maintenance, captured genetic values, and improvements in incomes in a support zone around a park were all estimated.

- 561 Ruitenbeek, H. J., 1990.** The rainforest supply price: A step towards estimating a cost curve for rainforest conservation. London, London School of Economics, Development Economics Research Programme, Discussion Paper no. 29. 39 pp.
Proposes the calculation of a 'rainforest supply price' to help decide whether international resources should be used to protect specific rainforests.
- 562 Ruitenbeek, H. J., 1992.** The rainforest supply price: A tool for evaluating rainforest conservation expenditures. *Ecological Economics* 6(1):57-78.
"To help decide whether international resources should be used to protect specific rainforests, the calculation of a 'rainforest supply price' (RSP) is proposed." Korup National Park in Cameroon is the subject of active international conservation efforts.
- 563 Rush, J., 1991.** The last tree: Reclaiming the environment in tropical Asia. New York, Asia Society; dist. by Westview Press. 107 pp.
Describes "the environmental crisis in South and Southeast Asia and sets forth the steps that citizen groups throughout the region are taking to avert it." Among the environmental problems discussed is that of the disappearing forests.
- 564 Sabhasri, S., 1990.** The role of social sciences in (attaining) sustainable forestry. In: International Union of Forest Research Organizations, 19th World Congress, Montreal, Aug. 5-11, 1990. Congress Report, Vol. A. Hull, Quebec, IUFRO Organizing Committee, Forestry Canada. pp. 489-495.
Discusses the role of the social sciences in achieving forest sustainability in the tropics.
- 565 Salleh, M. N., 1990.** Productivity, use, and conservation issues in the humid tropics. In: International Union of Forest Research Organizations, 19th World Congress, Montreal, Aug. 5-11, 1990. Congress Report, Vol. B. Hull, Quebec, IUFRO Organizing Committee, Forestry Canada, pp. 49-53.
- 566 Samanez-Mercado, R., 1990.** The Amazon challenge. *Unasylva* 41(163):22-27.
Discusses the environmental situation in the Amazon region, including the need for sustainable forest management.
- 567 Santiago, A., 1980.** Strategies for increased and sustained biological and economic productivity of ecosystems of trees in the humid tropics. In: Furtado, J. I., ed. *Tropical ecology and development: Proceedings of the 5th International Symposium of Tropical Ecology*, Kuala Lumpur, April 16-21, 1979. Kuala Lumpur, International Society of Tropical Ecology. Vol. 1, pp. 1363-1367.
- 568 Sastrapradja, S., 1988.** Perspective on conservation in Indonesia. In: Denslow, J. S. and Padoch, C., eds. *People of the tropical rain forest*. Berkeley, University of California Press. pp. 197-206.

- 569 Saterson, K. A., 1990.** Integration of biological conservation with development policy: The role of ecological analysis. In: Goodland, R., ed. *Race to save the tropics: Ecology and economics for a sustainable future.* Washington, DC, Island Press. pp. 141-159.
A discussion of biological diversity and its integration into sustainable development projects.
- 570 Sayer, J. and Anadu, P. A., 1990.** Role of forestry in conserving biological diversity. In: Tarlton, G. L., ed. *Forestry: A multiple-use enterprise. Proceedings of the thirteenth Commonwealth Forestry Conference, Rotorua, Sept. 1989.* Rotorua, New Zealand, Forest Research Institute. pp. 145-151.
The authors are concerned "not only that forest management is conducted in such a way as to minimise the loss of biological diversity, but also that the resources that are available for conservation are applied in the most cost-effective way." (p. 145)
- 571 Sayer, J., 1991.** Buffer zones in rainforests: Fact or fantasy? *Parks* 2(2):20-24.
This article is based on a review of buffer zone projects in rainforest parks and reserves, published by IUCN.
- 572 Sayer, J., 1991.** Buffer zone management in rain forest protected areas. *Tigerpaper* 18(4):10-17.
This paper is concerned with buffer zones in tropical closed broadleaved forests.
- 573 Sayer, J., 1991.** Conservation and protection of tropical rain forests: The perspective of the World Conservation Union. *Unasylva* 42(166):40-45.
- 574 Sayer, J., 1991.** Rainforest buffer zones: Guidelines for protected area managers. Cambridge, UK, IUCN, Forest Conservation Programme. 94 pp.
Includes sections on the following topics: Legal and institutional considerations; rural development in buffer zones; buffer zones in forested lands; nonwood forest products from buffer zones; and, research, education and tourism in buffer zones. Includes case studies.
- 575 Schelhas, J., 1992.** Socio-economic and biological analysis for buffer zone establishment. In: Willison, J. H. M. et al., eds. *Science and the management of protected areas: Proceedings of an international conference, Acadia University, May 1991.* New York, Elsevier. *Developments in Landscape Management and Urban Planning* no. 7. pp. 163-169.
Reports on research conducted in the Braulio Carrillo National Park in northeastern Costa Rica. One of the sustainable land uses discussed was forestry.
- 576 Schmink, M., 1992.** Building institutions for sustainable development in Acre, Brazil. In: Redford, K. H. and Padoch, C., eds. *Conservation of Neotropical forests: Working from traditional resource use.* New York, Columbia University Press. pp. 276-297.
Discusses a program of technical cooperation between the Federal University of Acre and the University of Florida. The program, initiated in 1986, focuses on ecological, social, and economic aspects of forest extraction, agroforestry, and agricultural systems used by rubber tappers and settlers in the state of Acre.

577 Schmithusen, F., 1990. Tropical forest conservation and protection: Political issues and policy considerations. In: Palo, M., and Mery, G., eds. Deforestation or development in the Third World. Vol. III. Metsantutkimuslaitoksen Tiedonantoja no. 349; Scandinavian Forest Economics no. 32. pp. 111-120.

"This paper emphasizes political aspects of forest conservation with regard to public awareness, involvement of the local population and socio-economic compensation."
(p. 111)

578 Secrett, C., 1987. Friends of the Earth UK and the hardwood campaign. In: Proceedings of the Conference on Forest Resources Crisis in the Third World, Penang, Malaysia, Sept. 6-8, 1986. Penang, Sahabat Alam Malaysia. pp. 348-356.

Discusses the group's efforts to save rainforests.

579 Secrett, C., 1985. Rainforest: Protecting the planet's richest resource. [London] Friends of the Earth. 90 pp.

Reviews the causes of rain forest destruction and urges sustainable development of the forests.

580 Serrao, E. A., 1991. Sustainability of pastures replacing forests in the Latin American humid tropics: The Brazilian experience. In: Proceedings of the Humid Tropical Lowlands Conference: Development strategies and natural resource management, Panama City, June 1991. Vol. VI. Bethesda, MD, Development Strategies for Fragile Lands. pp. 69-92.

The author analyzes the sustainability of pastures replacing forest in the Brazilian Amazon. He evaluates cattle raising within the context of its sustainability and its evolution over the last 30 years.

581 Sharma, N. and Rowe, R., 1992. Managing the world's forests. Finance and Development 29(2):31-33.

Discusses the World Bank's role in the sustainable development of forests, particularly tropical forests.

582 Sharma, N. et al., 1992. Conditions for sustainable development. In: Sharma, N. P., ed. Managing the world's forests: Looking for balance between conservation and development. Dubuque, IA, Kendall/Hunt. pp. 489-513.

The authors conclude: "Although in the short run conflicts may occur between conservation and economic development, in the long run their goals are complementary." Co-authors are: R. Rowe, M. Grut, R. Kramer, and H. Gregersen.

583 Sharma, N. P., editor, 1992. Managing the world's forests: Looking for balance between conservation and development. Dubuque, IA, Kendall/Hunt. 605 pp.

Part 1 provides background on the world forest situation; part 2 covers global environmental concerns, including tropical deforestation; parts 3 and 4 focus on policy and institutional issues and on forest valuation and the social dimensions of forestry; part 5 deals with forest management; and part 6 examines policies needed for a global transition to sustainable development.

584 Shen, S. and Hess, A., 1983. Sustaining tropical forest resources: Reforestation of degraded lands. Washington, DC, Office of Technology Assessment, Background Paper no.

1. 55 pp.

"This background paper is designed to provide the U.S. Congress with an overview of some reforestation technologies and their possible beneficial and adverse impacts. It also discusses the constraints and opportunities for the introduction of these technologies in such activities as timber and fuel production, watershed protection, and agroforestry." (p. iii)

585 Snook, L. C., 1992. Opportunities and constraints for sustainable tropical forestry: Lessons from the Plan Piloto Forestal, Quintana Roo, Mexico. In: Proceedings of the Humid Tropical Lowlands Conference: Development Strategies and Natural Resource Management, Panama City, 1991. Vol. V. Bethesda, MD, Development Strategies for Fragile Lands. pp. 65-83.

The Plan Piloto Forestal of Quintana Roo is an 8 year old community forestry project on the Yucatan peninsula of Mexico. It has been praised as a model for sustainable tropical forestry.

586 Southgate, D. D. and Disinger, J. F., editors, 1987. Sustainable resource development in the Third World. Boulder, Westview Press. 177 pp.

An international symposium addressing the technological and institutional challenges of sustainable development of natural resources in the Third World was held in Columbus, Ohio in Sept. 1985. This volume includes selected papers from the symposium.

587 Spears, J., 1985. Deforestation issues in developing countries: The case for an accelerated investment programme. Commonwealth Forestry Review 64(4):313-343.

The author concludes that "We already have technical solutions to many of the problems caused by deforestation and it has been clearly demonstrated that forestry conservation and development projects can earn sufficiently high rates of return to be self sustaining." (p. 314)

588 Spears, J., 1986. Deforestation issues in developing countries: The case for an accelerated investment program. In: Proceedings of the Twelfth Commonwealth Forestry Conference, 1985. Victoria, B.C., Canadian Forestry Service, Pacific Forestry Centre. pp. 47-64.

The author summarizes the major impacts of deforestation and urges increased investment in both conservation and development.

589 Spears, J., 1988. Preserving biological diversity in the tropical forests of the Asian region. In: Wilson, E. O. and Peter, F. M., eds. Biodiversity. Washington, DC, National Academy Press. pp. 393-402.

Discusses policy and management changes necessary to preserve the remaining tropical forests in the Asian Region.

590 Spears, J. S., 1980. Can farming and forestry coexist in the tropics? *Unasylva* 32(128):2-12.

"Five World Bank projects are examined from the point of view of how they answer human needs for the kind of sustainable forestry and farming that are harmonious with tropical forest ecosystems." The studies are taken from Malaysia, Colombia, Kenya, Indonesia, and the Philippines.

591 Spears, J. S., 1984. Role of forestation as a sustainable land use and strategy option for tropical forest management and conservation and as a source of supply for developing country wood needs. In: Wiersum, K. F., ed. *Strategies and designs for afforestation, reforestation and tree planting*. Wageningen, Pudoc. pp. 29-47.

"This paper briefly reviews the role which forestation and more intensive management of natural forests could play as one of the sustainable land use options for management and conservation of the tropical moist forest." (p. 29)

592 Stoel, T. B., Jr., Campbell, F., Gibson, J., and Ledec, G., 1981. Actions needed to conserve tropical moist forests. 1st ed. Washington, DC, Natural Resources Defense Council. 158 pp.

The purposes of this report are: 1) To describe the tropical moist forest conservation program of the International Union for Conservation of Nature; and 2) to suggest additional actions needed to preserve TMFs.

593 Struhsaker, T. T., 1987. Forestry issues and conservation in Uganda. *Biological Conservation* 39(3):209-234.

"This paper reviews current trends in the policy and use of Uganda's forestry resource. Deforestation significantly exceeds reforestation." (p. 209.) Suggestions are offered for a management plan that would preserve the few remaining natural forests.

594 Struhsaker, T. T., 1972. Rain-forest conservation in Africa. *Primates* 13(1):103-109.

Outlines some of the causes of rainforest destruction in Africa, reasons why rainforests should be preserved, and gives some general suggestions as to how forest conservation might be implemented.

595 Sumitro, A., 1991. Assessment of forest benefits in economic and social terms: The case of developing countries. In: 10th World Forestry Congress, Paris, 1991. *Proceedings, Discussion Area A. Revue Forestiere Francaise, Hors Serie no. 2*. pp. 264-271.

Discusses the growing importance of conservation values among the benefits of tropical forests.

596 Symington, M. M., 1991. Biodiversity and development in the humid tropics: Can they coexist? In: *Proceedings of the Humid Tropical Lowlands Conference: Development strategies and natural resource management*, Panama City, June 1991. Vol. I. Bethesda, MD, Development Strategies for Fragile Lands. pp. 17-29.

The author presents examples to illustrate how economic development and biodiversity conservation can be integrated. Her conclusion is that "biodiversity and development can coexist in the humid tropics, but only if the development models chosen are ones that internalize the concept of sustainability." (p. 25)

- 597 Talbot, J., 1987.** Tropical forests, biological diversity and preservation: Who's on call for action? *Bulletin of the Ecological Society of America* 68(4):497-500.
The author contends that although the scientific community knows what is necessary to preserve biological diversity, very little is being done about it. He concludes: "Making a business out of preserving tropical forests is not going to solve the problem; consultants and projects are less than 50% effective, and their advice and actions are not usually lasting."
- 598 Terborgh, J., 1992.** Diversity and the tropical rain forest. New York, Scientific American Library. 242 pp.
Includes a chapter on managing the tropical forests to conserve biological diversity.
- 599 Tobias, D. and Mendenhall, R., 1991.** Valuing ecotourism in a tropical rain-forest reserve. *Ambio* 20(2):91-93.
This study measures the value of ecotourism at a tropical rain forest site in Costa Rica using the travel cost method. The results of the study show that tropical rain forests can generate large economic values through recreation. The authors urge "that all of the economic benefits of conserving tropical rain forests be explored and quantified as soon as possible."
- 600 Tosi, J. A., Jr. and Voertman, R. F., 1975.** Making the best use of the tropics. *Unasylva* 27(110):2-10.
The authors argue that it is a mistake to destroy the diversity of the tropics with temperate zone development techniques which are not suited to the tropics. (p. 2)
- 601 Tosi, J. A., Jr. and Voertman, R. F., 1964.** Some environmental factors in the economic development of the tropics. *Economic Geography* 40(3):189-205.
- 602 Trede, R. and Wolff, E., 1992.** Sustainable forest use can work in tropical areas. *World Wood* 33(2):20-21.
Discusses a sustainable forest management project in Indonesia.
- 603 U.N. Environment Programme, 1980.** Tropical woodlands and forest ecosystems: A review. Nairobi, UNEP Report no. 1. 84 pp.
Discusses some problem areas, including human pressure on resources, and deforestation, and then presents some goals for UNEP in dealing with the problems.
- 604 U.S. Agency for International Development, 1988.** Progress in conserving tropical forests and biological diversity in developing countries. U.S. Agency for International Development. 140 pp.
The 1987 annual report to Congress on the implementation of sections 118 and 119 of the Foreign Assistance Act as amended. Discusses AID's tropical forestry and biological diversity programs.

- 605 U.S. Congress, 1986.** Protecting tropical forests in developing countries. U.S. Congress, 99th, 2d Session, House of Representatives Report 99-476. 10 pp.
Provides for expanded and diversified U.S. assistance for the conservation and sustainable management of tropical forests.
- 606 U.S. Congress, 1986.** Protection of tropical forests. U.S. Congress, 99th, 2d Session, Senate Report 99-481. 9 pp.
The purpose of this legislation was "to provide for expanded and diversified U.S. assistance for the conservation and sustainable management of tropical forests and to discourage actions known to cause unnecessary forest destruction." (p. 1)
- 607 U.S. General Accounting Office, 1991.** Developing country debt: Debt swaps for development and nature provide little debt relief. U.S. General Accounting Office, GAO/NSIAD-92-14. 17 pp.
Part of the review was conducted in Costa Rica, the country that has participated in the most debt swaps.
- 608 U.S. Office of Technology Assessment, 1984.** Technologies to sustain tropical forest resources. Washington, D.C., U.S. Congress, Office of Technology Assessment, OTA-F-214. 344 pp.
This report and its two background papers ("Reforestation of Degraded Lands" and "U.S. and International Institutions") identify and discuss some of the constraints and opportunities to develop and implement forest-sustaining technologies. (p. iii)
- 609 U.S. Office of Technology Assessment, 1992.** Technologies to sustain tropical forest resources and biological diversity: Combined summaries. U.S. Congress, Office of Technology Assessment. 88 pp.
A reprinting of two assessments previously published by the OTA: "Technologies to Sustain Tropical Forest Resources" (1984), and "Technologies to Maintain Biological Diversity" (1987). Includes a new introduction outlining the changes that have occurred since their publication.
- 610 Uhl, C. and Parker, G., 1986.** Is a quarter-pound hamburger worth a half-ton of rain forest? *Interciencia* 11(5):213.
The authors ask whether rain forests might be more valuable in their natural state, as sources of timber, raw materials, and new food and drug plants, than they are when converted into pasture for cattle.
- 611 Vandermeer, J., 1991.** The political ecology of sustainable development: The southern Atlantic coast of Nicaragua. *Centennial Review* 35(2):265-294.
The author discusses the effects of political decisions about development on the conservation of natural resources. He points out that "Costa Rica, with a program that actively promotes conservationist agendas experienced the highest rate of deforestation in the world, while Nicaragua, with a program that actively promoted social justice agendas experienced a much lower rate."

- 612 Vollmer, U., 1991.** Protection of tropical ecosystems in bilateral development cooperation. In: Erdelen, W. et al., eds. Tropical ecosystems: Systems characteristics, utilization patterns, and conservation issues. Proc. of the Internat. and Interdiscip. Symp., Saarbrücken, Ger., June 1989. Weikersheim, Verlag Josef Margraf. pp. 177-184.
 "This article outlines the instruments and the activities of development cooperation which deal specifically with the harmonization of developmental and conservation objectives and the stabilization or rehabilitation of sound environmental conditions." (p. 177)
- 613 Webb, L. J. et al., 1985.** Conservation of tropical rain forest isolates. In: Davidson, J. et al., eds. The future of tropical rain forests in South East Asia. Gland, Switzerland, IUCN Commission on Ecology Papers no. 10. pp. 55-68.
 Co-authors are: M. S. Hopkins, P. A. R. Young, J. Kikkawa, and T. E. Lovejoy.
- 614 Webb, L. J., 1971.** Problems in the conservation of tropical habitat-types in North Queensland. In: Symposium: Planned utilization of the lowland tropical forests, Cipayung, Bogor, Java. Aug. 12-14, 1971. Sponsored by National Biological Institute, Regional Center for Tropical Biology, Unesco, and the Ford Foundation. pp. 136-145.
 Problems are discussed under three headings: Political and social, administrative, and scientific.
- 615 Wells, M., Brandon, K., and Hannah, L., 1992.** People and parks: Linking protected area management with local communities. Washington, DC, World Bank; World Wildlife Fund; U.S. Agency for International Development. 99 pp.
 This report explores the social, ecological, technical and institutional issues that arise from attempts to link protected area management with local development. Case studies from Africa, Asia, and Latin America are included.
- 616 Whelan, T., 1991.** Ecotourism and its role in sustainable development. In: Whelan, T., ed. Nature tourism: Managing for the environment. Washington, DC, Island Press. pp. 3-22.
- 617 Whitehouse, J. F., 1991.** East Australian rain-forests: A case-study in resource harvesting and conservation. Environmental Conservation 18(1):33-43.
 "This paper examines the significance of Australian rain-forests, the main human interactions with rain-forest, the management of rain-forest for commercial timber production, and the moves towards rain-forest conservation. It provides a useful case-study in natural resource management, conflict, and conservation." (p. 33)
- 618 Whitmore, T. C., 1980.** The conservation of tropical rain forest. In: Soule, M. E. and Wilcox, B. A., eds. Conservation biology: An evolutionary-ecological perspective. Sunderland, MA, Sinauer Associates, pp. 303-318.
 Presents a general discussion of tropical rainforest exploitation and conservation, including the political response.

- 619 Wiersum, K. F., 1986.** The effect of intensification of shifting cultivation in Africa on stabilizing land-use and forest conservation. *Netherlands Journal of Agricultural Science* 34(4):485-488.
 "Intensification of shifting cultivation to permanent agriculture has been proposed as a means to stabilize land-use and to protect forest resources in tropical countries. Based on the results of four African case-studies it is shown that it cannot be expected that changes in cultivation practices in itself will have these results."
- 620 Wilks, C., 1990.** [The conservation of the forest ecosystems of Gabon.] Cambridge, UK, International Union for Conservation of Nature and Natural Resources, World Conservation Union. 215 pp.
 In French. A volume in the IUCN Tropical Forest Programme series.
- 621 Winterbottom, R. and Hazelwood, P. T., 1987.** Agroforestry and sustainable development: Making the connection. *Ambio* 16(2/3):100-110.
 Agroforestry "holds great promise for contributing to sustainable land-use systems." (p. 100)
- 622 World Bank, 1990.** Indonesia: Sustainable development of forests, land, and water. Washington, DC, World Bank. 190 pp. + map.
 The purpose of this report "was to demonstrate that increased attention to the environment was necessary to achieve the Government's (Indonesia's) development objectives." (p. ix)
- 623 World Commission on Environment and Development, 1987.** Our common future. New York, Oxford University Press. 400 pp.
 Discusses tropical forestry, food security, energy, and other challenges facing the world, in the context of sustainable development.
- 624 Wyatt-Smith, J., 1987.** Problems and prospects for natural management of tropical moist forests. In: Mergen, F. and Vincent, J. R., eds. *Natural management of tropical moist forests: Silvicultural and management prospects of sustained utilization.* New Haven, CT, Yale University, School of Forestry and Environmental Studies. pp. 5-22.
- 625 Yamada, I., 1982.** Saving Southeast Asia's forest biosystem. In: Bruenig, E. F. ed. *Transactions of the Third International MAB/IUFRO Workshop on Ecosystems Research, Kyoto, Sept. 9-10, 1981.* Bonn, German National Committee for the Unesco Program "Man and the Biosphere." pp. 3-13.
 Describes the critical conditions in Southeast Asian forests from observations made in 1975-1978. A description of the reclamation of swamp forests in South Sumatra is presented as an example.

INDIGENOUS PEOPLES



- 626 Alcorn, J. B., 1989.** An economic analysis of Huastec Mayan forest management. In: Browder, J. O., ed. *Fragile lands of Latin America: Strategies for sustainable development*. Boulder, Westview Press. pp. 182-206.

The author describes and evaluates a type of social forestry system currently used by indigenous farmers living in a zone of "fragile lands" in northeastern Mexico.

- 627 Alcorn, J. B., 1984.** Development policy, forests, and peasant farms: Reflections on Huastec-managed forests' contributions to commercial production and resource conservation. *Economic Botany* 38(4):389-406.

"The Huastec Indians of northeastern Mexico manage their forests in an indigenous system that integrates commercial and subsistence production." (p. 389)

- 628 Alcorn, J. B., 1990.** Indigenous agroforestry systems in the Latin American tropics. In: Altieri, M. and Hecht, S. B., eds. *Agroecology and small farm development*. Boca Raton, FL, CRC Press. pp. 203-218.

- 629 Alcorn, J. B., 1990.** Indigenous agroforestry strategies meeting farmers' needs. In: Anderson, A. B., ed. *Alternatives to deforestation: Steps toward sustainable use of the Amazon rain forest*. New York, Columbia University Press. pp. 141-151.

"Indigenous farmers offer an alternative to deforestation - 'managed deforestation'...Farmers use agroforestry strategies to insure that the forest is not destroyed. Seven characteristics of indigenous agroforestry strategies are discussed." (p. 141)

- 630 Anderson, A., 1991.** Forest management strategies by rural inhabitants in the Amazon estuary. In: Gomez-Pompa, A. et al., eds. *Rain forest regeneration and management*. Paris, Unesco; Park Ridge, NJ, Parthenon Publishing Group. *Man and the Biosphere Series* vol. 6. pp. 351-360.

This study "shows that extraction, despite its historical defects, has the potential to be incorporated into economically and ecologically rational forms of land use." (p. 352)

- 631 Anderson, A. E. and Jardim, M. A. G., 1989.** Costs and benefits of floodplain forest management by rural inhabitants in the Amazon estuary: A case study of acai palm production. In: Browder, J. O., ed. *Fragile lands of Latin America: Strategies for sustainable development*. Boulder, Westview Press. pp. 114-129.

"This chapter is a case study of an economically productive and ecologically sustainable land use that has evolved among traditional inhabitants in the floodplain of the Amazon estuary." (p. 114)

632 Anderson, A. B., 1990. Extraction and forest management by rural inhabitants in the Amazon estuary. In: Anderson, A. B., ed. Alternatives to deforestation: Steps toward sustainable use of the Amazon rain forest. New York, Columbia University Press. pp. 65-85.

"This case study illustrates how traditional inhabitants can utilize Amazonian forests in ways that conserve natural resources and at the same time generate moderate economic returns." (p. 65)

633 Anderson, J. N., 1987. Lands at risk, people at risk: Perspectives on tropical forest transformations in the Philippines. In: Little, P. D. et al., eds. Lands at risk in the Third World: Local-level perspectives. Boulder, Westview Press. pp. 249-267.

Discusses some of the causes of deforestation in the Philippines and the effects of deforestation on the resident populations of the forests.

634 Anderson, R. S. and Huber, W., 1988. The hour of the fox: Tropical forests, the World Bank, and indigenous people in Central India. Seattle, University of Washington Press. 158 pp.

"This book argues for a realistic theory of natural resource development, special communication responsibilities in projects involving aboriginal people, and increased public benefits (both local and national) from World Bank-funded projects." (p. 4)

635 Anderson, R. S. and Huber, W., 1990. The perils of pine: Planning and failure in a World Bank project in Central India, and its aftermath. *Journal of Business Administration* 19(1-2):135-159.

Discusses a World Bank project which terminated in 1981 and the related problems of tropical forests and tribal development. The authors consider the question: "Why can't the presence of tribal people in and around the forests be sustained even while some industrial potential is realized?" (p. 135)

636 Ayling, R. D., 1992. Changing perspectives of the demands on tropical forests. *Forestry Chronicle* 68(4):476-480.

"Underlying many of the issues associated with tropical forests, deforestation and ecosystem degradation is the relationship between 'developed' and 'developing' countries." (p. 476.) The author suggests that by learning first from local people, many programs would be more relevant to their needs, and less wasteful of time and resources.

637 Bandyopadhyay, J. and Shiva, V., 1990. Asia's forests, Asia's cultures. In: Head, S. and Heinzman, R., eds. Lessons of the rainforest. San Francisco, Sierra Club Books. pp. 66-77.

Discusses the fact that indigenous communities in Asia's tropical forests have inhabited and used the forests sustainably for centuries.

- 638 Boniface, D., 1990.** The human cost of Sarawak's timber revenue. Kensington, Australia, Law Association for Asia and the Pacific (LAWASIA). 37 pp.
The purpose of this "observer mission report" is to "attempt to place the dispute between the many Indigenous people of Sarawak and what generally may be identified as Sarawak Government policy regarding the timber industry, in context." (p. 1)
- 639 Boom, B. M., 1987.** The Panare Indians and their forest: Survival of a Venezuelan culture. *Journal of the Washington Academy of Sciences* 77(4):178-182.
This research indicates the heavy dependence that the Panare have on the plants of their environment and provides argument for the conservation of tropical forests.
- 640 Bopp, J. R., 1989.** The initiation of a secondary forest management project in the central Peruvian Amazon. Yale School of Forestry and Environmental Studies, Tropical Resources Institute, Working Paper no. 35. 61 pp.
The author concludes: "Sustainable utilization of floodplains and nontraditional forest products as demonstrated by the Shipibo [Indians] are viable alternatives to alleviating the pressure of deforestation on tropical rainforests of the Amazon Basin." (p. 41)
- 641 Brookfield, H., 1988.** The new great age of clearance and beyond. In: Denslow, J. S. and Padoch, C., eds. *People of the tropical rain forest*. pp. 209-224.
The author's conclusion is that "what is needed first is a new realization of the value of the forest-dwelling people to the countries in which they are minority citizens."
- 642 Bunker, S. G., 1981.** The impact of deforestation on peasant communities in the Medio Amazonas of Brazil. In: Sutlive, V. H. et al., eds. *Where have all the flowers gone? Deforestation in the Third World*. Williamsburg, VA, College of William and Mary, Dept. of Anthropology, Studies in Third World Societies Publication no. 13. pp. 45-60.
This paper examines the effects of deforestation and pasture formation on five Amazonian communities with relatively dense populations and long-established commercial networks. (p. 45)
- 643 Bunyard, P., 1989.** Guardians of the forest: Indigenist policies in the Colombian Amazon. *Ecologist* 19(6):255-258.
Discusses the policy of the Colombian government of granting land rights to its indigenous forest peoples, and the implication that this policy reflects the government's belief that the best guardians of the forest are its indigenous peoples.
- 644 Butt, A. J., 1979.** Land use and social organization of tropical forest peoples of the Guianas. In: Garlick, J. P. and Keay, R. W. J., eds. *Human ecology in the tropics*. New York, Pergamon Press. *Symposia of the Society for the Study of Human Biology*. Vol. 9, pp. 33-49.
Discusses the interrelationships of habitat, economy, and society among three Guiana peoples.
- 645 Carneiro, R. L., 1988.** Indians of the Amazonian forest. In: Denslow, J. S. and Padoch, C., eds. *People of the tropical rain forest*. Berkeley, University of California Press. pp. 73-86.

646 Catinot, R., 1984. [In Francophone Africa the future of the tropical forest will be shaped in the overall rural context: The forest cannot be dissociated from the natural environment and its inhabitants.] *Bois et Forets des Tropiques* 203:7-43.

The authors considers the principal cause of tropical deforestation to be rural dwellers needing land. Consequently, he proposes undertaking large-scale reforestation and involving these rural inhabitants "who have been the principal agents of the destruction of the natural forest and giving them the majority ownership of the reconstituted forests..." (p. 8.) In French, with English summary.

647 Cernea, M. M., 1992. A sociological framework: Policy, environment, and the social actors for tree planting. In: Sharma, N. P., ed. *Managing the world's forests: Looking for balance between conservation and development.* Dubuque, IA, Kendall/Hunt. pp. 301-335.

Discusses social forestry and several social approaches to participatory afforestation.

648 Chernela, J. M., 1982. Indigenous forest and fish management in the Uaupes Basin of Brazil. *Cultural Survival Quarterly* 6(2):17-18.

649 Chin, S. C., 1987. Do shifting cultivators deforest? In: *Proceedings of the Conference on Forest Resources Crisis in the Third World, Penang, Malaysia, Sept. 6-8, 1986.* Penang, Sahabat Alam Malaysia. pp. 223-231.

The author discusses how traditional shifting cultivators use the forest and then looks at "the real causes of deforestation."

650 Clarke, W. C., 1976. The maintenance of agriculture and human habitats within the tropical forest ecosystem. In: *Report of Symposium on Ecological Effects of Increasing Human Activities on Tropical and Subtropical Forest Ecosystems, University of Papua New Guinea, Apr. 28-May 1, 1975.* Canberra, Australian Govt. Publ. Service. pp. 103-114.

651 Clay, J., editor, 1982. Deforestation: The human costs. *Cultural Survival Quarterly* 6(2):3-7.

Introduction to a special issue of the journal, exploring the scope and nature of deforestation in the tropics. It also examines these issues in the light of specific groups of indigenous peoples throughout the world.

652 Clay, J. W., 1988. Indigenous peoples and tropical forests: Models of land use and management from Latin America. Cambridge, MA, Cultural Survival, Inc., *Cultural Survival Report no. 27.* 116 pp.

"This report summarizes the research on six activities pursued by indigenous peoples in rainforest areas of Central and South America that sustain both their own populations and the environment: Gathering, hunting, fishing, shifting agriculture, permanent agriculture and 'upgrading' of natural resource/forest bases." (p. 4.) Includes 38 pages of references.

- 653 Clay, J. W., 1990.** Indigenous peoples: The miner's canary for the twentieth century. In: Head, S. and Heinzman, R., eds. *Lessons of the rainforest*. San Francisco, Sierra Club Books. pp. 106-117.
 "In Brazil alone, an average of one Indian culture per year has disappeared since the turn of the century. The survival of such groups depends on the survival of the forests...." (p. 106)
- 654 Cloud, J., 1985.** Forest resources and rural populations in Chiapas. *Cultural Survival Quarterly* 9(1):21-24.
 "Unless major changes in land use occur in southern Mexico, neither reserves nor rural communities will survive." (p. 21)
- 655 Colchester, M., 1992.** Global alliance of indigenous peoples of the rainforests. *Forests, Trees and People Newsletter* 18:20-25.
 Discusses the "charter of the Indigenous Tribal Peoples of the Tropical Forests" which was produced at a conference held in Penang, Malaysia in February 1992.
- 656 Colchester, M., 1988.** Respecting forest peoples' rights: A strategy for survival. In: McDermott, M. J., ed. *The future of the tropical rain forest: Proceedings of an international conference*, Oxford, June 27-28, 1988. Oxford, Oxford Forestry Institute. pp. 16-17.
- 657 Colchester, M., 1987.** The Indonesian Transmigration Programme: Migrants to disaster. In: *Proceedings of the Conference on Forest Resources Crisis in the Third World*, Penang, Malaysia, Sept. 6-8, 1986. Penang, Sahabat Alam Malaysia. pp. 161-169.
 Discusses the ecological impacts (including forest loss) and the human rights abuses resulting from the program.
- 658 Cox, P. A. and Elmqvist, T., 1991.** Indigenous control of tropical rain-forest reserves: An alternative strategy for conservation. *Ambio* 20(7):317-321.
- 659 Davis, G., 1988.** The Indonesian transmigrants. In: Denslow, J. S. and Padoch, C., eds. *People of the tropical rain forest*. Berkeley, University of California Press. pp. 143-153.
 Some environmentalists are concerned that the transmigrants are practicing shifting cultivation, destroying forests and abandoning their land. The author argues that the area under shifting cultivation by local people in the outer islands is much larger than that lost to transmigration.
- 660 Davis, S. H., 1988.** Indigenous peoples, environmental protection and sustainable development. Gland, Switzerland, International Union for Conservation of Nature and Natural Resources. 26 pp.
 Discusses how best to incorporate native groups into the local development process. An earlier version of this paper was published by the World Bank.

- 661 Davis, S. H., 1977.** Victims of the miracle: Development and the Indians of Brazil. New York, Cambridge University Press. 205 pp.
 "The central contention of this book is that the massive amount of disease, death and human suffering unleashed upon Brazilian Indians [in the 1970s] is a direct result of the economic development policies of the military government of Brazil." (p. xi.) Includes a chapter on the deforestation of the Brazilian Amazon.
- 662 Davis, W. and Henley, T., 1990.** Penan: Voice for the Borneo rainforest. Vancouver, B.C., Western Canada Wilderness Committee. 158 pp.
 A study of the plight of the Penan, one of the native peoples of Sarawak, who were suffering as a result of commercial logging that was destroying their forest home. The authors argue for the adoption of sustainable forestry practices and the creation of a Sarawak Biosphere Reserve.
- 663 DeAth, C., 1989.** Destroying trees, destroying people: Forest dwellers' rights in Papua New Guinea. *Environments* 20(2):64-71.
 The author looks at land rights and how meaningless they may become once land has been stripped of resources.
- 664 DeAth, C., 1980.** The throwaway people: Social impact of the Gogol timber project, Madang Province. Boroko, Papua New Guinea, Institute of Applied Social and Economic Research, Monograph no. 13. 131 pp.
 This study investigates the impact of the Gogol timber project on subsistence agriculturists in the Madang Province of Papua New Guinea.
- 665 Denevan, W. M. and Padoch, C., editors, 1987.** Swidden-fallow agroforestry in the Peruvian Amazon. Bronx, New York Botanical Garden. *Advances in Economic Botany*. Vol. 5, 107 pp.
 Discusses an indigenous agroforestry system practiced by the Bora Indians of Peru.
- 666 Denevan, W. M. et al., 1985.** Indigenous agroforestry in the Peruvian Amazon: Bora Indian management of swidden fallows. In: Hemming, J., ed. *Change in the Amazon Basin*. Manchester, Manchester University Press. Vol. 1, pp. 137-155.
 Co-authors are: J. M. Treacy, J. B. Alcorn, C. Padoch, J. Denslow, and S. Flores Paitan.
- 667 Denevan, W. M. et al., 1984.** Indigenous agroforestry in the Peruvian Amazon: Bora Indian management of swidden fallows. *Interciencia* 9(6):346-357.
 The authors believe that "certain features of Bora swidden-fallow management can be incorporated into systematic models of tropical agroforestry systems." (p. 347.)
 Co-authors are: J. M. Treacy, J. B. Alcorn, C. Padoch, J. Denslow, and S. Flores Paitan.
- 668 Denslow, J. S. and Padoch, C., editors, 1988.** People of the tropical rain forest. Berkeley, University of California Press. 231 pp.
 Contributors to this volume discuss the diverse ways in which people use tropical rain forests and forest lands.

- 669 Dove, M. R., 1985.** Plantation development in West Kalimantan II: The perceptions of the indigenous population. *Borneo Research Bulletin* 18(1):3-27.
This paper presents an analysis of local perceptions of oil palm plantation projects in West Kalimantan.
- 670 Dufour, D. L., 1990.** Use of tropical rainforests by native Amazonians. *BioScience* 40(9):652-658.
The objectives of this article are to summarize the history of indigenous peoples, and to describe some of the contributions anthropology and allied disciplines have made to understanding how these peoples use tropical rainforests.
- 671 Eder, J. F., 1990.** Deforestation and detribalization in the Philippines: The Palawan case. *Population and Environment* 12(2):99-115.
This paper is concerned with the impact of deforestation on the well-being of the indigenous peoples of the Philippines.
- 672 Endicott, K., 1982.** The effects of logging on the Batek of Malaysia. *Cultural Survival Quarterly* 6(2):19-20.
Discusses the effects of deforestation on the Batek.
- 673 Fearnside, P. M., 1986.** Human carrying capacity of the Brazilian rainforest. New York, Columbia University Press. 293 pp.
"This book deals with the colonization of Brazil's Amazon rainforest and how human populations fit into the new ecological systems being established there." Includes chapters on "the tropical rainforest as an ecosystem" and on "choosing development strategies for rainforest areas."
- 674 Friends of the Earth, 1990.** Oil operations threaten Ecuador rainforest and tribes. London, Friends of the Earth, Special Briefing. [2] pp.
Approximately 65,000 indigenous people inhabit the Amazonian forests of the Oriente region of Ecuador. The Oriente is currently the site of extensive oil activities.
- 675 Gilmour, D. A., 1989.** Forest resources and indigenous management in Nepal. Honolulu, East-West Center, Environment and Policy Institute, Working Paper no. 17. 15 pp.
Although Nepal has undergone widespread deforestation, some hill regions are still well covered. The author suggests that in these areas, villagers have responded to shortages of forest products by developing indigenous systems for managing the forests under their control.
- 676 Gomez-Pompa, A. and Kaus, A., 1990.** Traditional management of tropical forests in Mexico. In: Anderson, A. B., ed. *Alternatives to deforestation: Steps toward sustainable use of the Amazon rain forest*. New York, Columbia University Press. pp. 45-64.
The authors contend that "tropical deforestation in Mexico is due to neglect of traditional people's vast experience with resource management." (p. 46)

- 677 Goodland, R., 1991.** Prerequisites for ethnic identity and survival. In: West, P. C. and Brechin, S. R., eds. Resident peoples and national parks: Social dilemmas and strategies in international conservation. Tucson, University of Arizona Press. pp. 301-310.
Discusses the needs of tribal people which must be met "for continued physical, socioeconomic, and cultural survival in the face of development." (p. 301.) This chapter is reprinted from "Tribal peoples and economic development: Human ecological considerations," published in 1982 by the World Bank.
- 678 Grainger, A., 1984.** Activating policies for increasing the effectiveness of forestation projects in the tropics involving non-governmental organizations. In: Wiersum, K. F., ed. Strategies and designs for afforestation, reforestation and tree planting. Wageningen, Pudoc. pp. 375-385.
Describes the range of forestation activities in the tropics in which NGOs are involved, focusing on social forestry programs.
- 679 Gray, A., 1990.** Indigenous peoples and the marketing of the rainforest. *Ecologist* 20(6):223-227.
Discusses the marketing of "sustainably-produced" rainforest products as a key to saving the rainforests. "If these people do not have control over the marketing of rainforest products, they will become dependent on outside forces over which they have no control; outside forces which will inevitably lead to the destruction both of the indigenous societies and the rainforests." (p. 223)
- 680 Greenbaum, L., 1989.** Plundering timber on Brazilian Indian reservations. *Cultural Survival Quarterly* 13(1):23-26.
Discusses the serious consequences resulting from allowing lumbering on Indian reservations in Rondonia and Para, Brazil.
- 681 Gregersen, H., Draper, S. and Elz, D., editors, 1989.** People and trees: The role of social forestry in sustainable development. Washington, DC, World Bank. 273 pp.
"This book has two main parts. Part I presents the rationale for increased support for social forestry. Part II discusses issues related to social forestry project planning and implementation." (p. xii.) Includes a chapter on social forestry and the environment with information on the causes and consequences of deforestation.
- 682 Grenand, P., 1992.** The use and cultural significance of the secondary forest among the Wayapi Indians. In: Plotkin, M. and Famolare, L., eds. Sustainable harvest and marketing of rain forest products. Washington, DC, Island Press. pp. 27-40.
The author demonstrates that, with practically no management, the secondary forest plays an important role in the optimal foraging strategy of the Wayapi Indians of French Guiana and Brazil.
- 683 Griffin, D. M., 1988.** Innocents abroad in the forests of Nepal: An account of Australian aid to Nepalese forestry. Canberra, Anutech Pty Ltd. 188 pp.
Describes the work of the Nepal-Australia Forestry Project.

- 684 Hafner, J. A. and Apichatvullop, Y., 1990.** Migrant farmers and the shrinking forests of Northeast Thailand. In: Poffenberger, M., ed. *Keepers of the forest: Land management alternatives in Southeast Asia*. West Hartford, CT, Kumarian Press. pp. 187-219.
- 685 Halhead, V., 1992.** Social dimensions of forest utilization in Mexico: Implications for intervention. In: Downing, T. E. et al., eds. *Development or destruction: The conversion of tropical forest to pasture in Latin America*. Boulder, Westview Press. pp. 159-169.
Discusses the need for involvement of local people in any sustainable program of rural development.
- 686 Harp, W., 1991.** Ecology and cosmology: Rain forest exploitation among the Embera-Choco. In: *Proceedings of the Humid Tropical Lowlands Conference: Development strategies and natural resource management, Panama City, June 1991*. Vol. IV. Bethesda, MD, Development Strategies for Fragile Lands. pp. 1-11.
The author contends that managers should consider the values of indigenous knowledge systems in creating development strategies and guiding natural resource management of the humid tropical lowlands.
- 687 Hartshorn, G. S., 1990.** Natural forest management by the Yanasha Forestry Cooperative in Peruvian Amazonia. In: Anderson, A. B., ed. *Alternatives to deforestation: Steps toward sustainable use of the Amazon rain forest*. New York, Columbia University Press. pp. 128-138.
Five native communities in eastern Peru formed a forestry cooperative to manage their natural production forests on a sustained-yield basis.
- 688 Headland, T. N. and Bailey, R. C., 1991.** Introduction: Have hunter-gatherers ever lived in tropical rain forest independently of agriculture? *Human Ecology* 19(2):115-122.
The authors propose the hypothesis that hunter-gatherers could never have lived in tropical rain forest without direct or indirect access to cultivated foods. This article is an introduction to a special issue containing six articles, all devoted to this hypothesis.
- 689 Herlihy, P., 1986.** Indians and rain forest collide: The cultural parks of Darien. *Cultural Survival Quarterly* 10(3):57-61.
Darien Province in Panama remains the "largest area of relatively undisturbed Indian settlement in Central America." (p. 57)
- 690 Hiraoka, M., 1992.** Caboclo and Ribereno resource management in Amazonia: A review. In: Redford, K. H. and Padoch, C., eds. *Conservation of Neotropical forests: Working from traditional resource use*. New York, Columbia University Press. pp. 134-157.
Includes a discussion of forest product extraction and forest management.

- 691 Hiraoka, M., 1991.** Indigenous farming systems and development of tropical lowlands of Latin America: An Amazonian example. In: Proceedings of the Humid Tropical Lowlands Conference: Development strategies and natural resource management, Panama City, June 1991. Vol. VI. Bethesda, MD, Development Strategies for Fragile Lands. pp. 1-24.
 "The objective of this paper is to discuss the possibilities and limitations of adopting indigenous farming systems for sustainable development of the moist tropics of South America....The study is based on preliminary surveys carried out among non-tribal, long-time residents of the Amazon estuary in Brazil." (p. 3)
- 692 Hong, E., 1987.** Forest destruction and the plight of Sarawak's natives. In: Proceedings of the Conference on Forest Resources Crisis in the Third World, Penang, Malaysia, Sept. 6-8, 1986. Penang, Sahabat Alam Malaysia. pp. 192-208.
 Discusses the impact of deforestation on the natives of Sarawak.
- 693 Hong, E., 1987.** Natives of Sarawak: Survival in Borneo's vanishing forest. Pulau Pinang, Malaysia, Institut Masyarakat. 265 pp.
 Includes chapters on: Sarawak and its people; changes in Sarawak's land laws; forest policy and the natives; natives versus timber: fight for the forest; logging and forest depletion in Sarawak; and, social and environmental impact of the timber industry.
- 694 Houseal, B., MacFarland, C., Archibold, G., and Chiari, A., 1985.** Indigenous cultures and protected areas in Central America. Cultural Survival Quarterly 9(1):10-20.
 "There are no other land use models for the tropical rain forest that preserve ecological stability or biological diversity as efficiently as those of the indigenous groups presently encountered there." (p. 10)
- 695 Independent Commission on International Humanitarian Issues, 1986.** The vanishing forest: The human consequences of deforestation. Atlantic Highlands, NJ, Zed Books. 89 pp.
 Discusses the "humanitarian aspects" of the increasing disappearance of tropical forest, in particular, the health and welfare of populations directly concerned. (p. 13)
- 696 Kartawinata, K., et al., 1984.** The impact of development on interactions between people and forests in East Kalimantan: A comparison of two areas of Kenyah Dayah Settlement. In: Hanks, J., ed. Traditional life-styles, conservation and rural development: Proceedings of a symposium, IUCN Commission on Ecology Papers no. 7; Environmentalist vol. 4. Supplement 7:87-95.
 Co-authors are: H. Soedjito, T. Jessup, A. P. Vayda, and C. J. P. Colfer.
- 697 Kunstadter, P., Chapman, E. C., and Sabhasri, S., editors, 1978.** Farmers in the forest: Economic development and marginal agriculture in Northern Thailand. Honolulu, University Press of Hawaii. 402 pp.
 The purpose of this collection of papers is "to bring together some detailed accounts showing the range of variation in types of shifting cultivation, as well as to consider the implications of swiddening for the future of the people and the environment of Thailand." (p. ix)

- 698 Kunstadter, P., 1988.** Hill people of Northern Thailand. In: Denslow, J. S. and Padoch, C., eds. *People of the tropical rain forest*. Berkeley, University of California Press. pp. 93-110.
Compares the conservative land use system of the Lua farmers of northwestern Thailand with that of the Hmong.
- 699 Kunstadter, P., Bird, E. C. F., and Sabhasri, S., editors, 1986.** *Man in the mangroves: The socio-economic situation of human settlements in mangrove forests*. Tokyo, United Nations University. 117 pp.
Proceedings of a workshop held at Jong Nuch Village, Pattaya, Thailand, 27-31 May 1985, sponsored by the United Nations University and the National Research Council of Thailand. Reports the results of studies on socio-economic aspects of the use, development, and management of mangrove areas in relation to ecological and environmental factors.
- 700 Kunstadter, P., 1980.** The impact of economic development on Southeast Asian tropical forests. In: Furtado, J. I., ed. *Tropical ecology and development: Proceedings of the 5th International Symposium of Tropical Ecology*, Kuala Lumpur, Apr. 16-21, 1979. Kuala Lumpur, International Society of Tropical Ecology. Vol. 1, pp. 65-72.
Discusses the consequences of commercialization of local economies, of emphasizing single products and short-term economic gains for the multiple, long-term self-renewing subsistence uses of the traditional system. (p. 65)
- 701 Luna, L. E., 1990.** Traditional human environmental awareness in the Amazon. In: Palo, M. and Mery, G., eds. *Deforestation or development in the Third World?* Vol. III. *Metsantutkimuslaitoksen Tiedonantoja* no. 349; *Scandinavian Forest Economics* no. 32. pp. 29-34.
The traditional environmental knowledge of native groups in the Amazon represents a human resource that should be taken into account, particularly in the education of youth. (p. 29)
- 702 Lynch, O. J., 1990.** *Whither the people? Demographic, tenurial and agricultural aspects of the Tropical Forestry Action Plan*. Washington, DC, World Resources Institute. 24 pp.
This paper focuses on the people living in or directly dependent on tropical forests.
- 703 MacDonald, T., 1992.** From reaction to planning: An indigenous response to deforestation and cattle raising. In: Downing, T. E. et al., eds. *Development or destruction: The conversion of tropical forest to pasture in Latin America*. Boulder, Westview Press. pp. 213-234.
Presents a case study of the Quijos Quichua Indians of Ecuador and their response to cattle and pastures. The study suggests that "ethnic federations are, or can become, social mechanisms for extending sustainable land use systems over a broad social and geographical landscape." (p. 214)

- 704 Massing, A., 1979.** Economic development and its effects on traditional land use systems in the tropical forests of West Africa. *Studies in Third World Societies* 8:73-95.
 "This paper presents the viewpoint of native populations with regard to forest use which is at present largely ignored in the discussion about the future of the humid tropical forests..." (p. 75)
- 705 Messerschmidt, D. A., 1987.** Conservation and society in Nepal: Traditional forest management and innovative development. In: Little, P. D. et al., eds. *Lands at risk in the Third World: Local-level perspectives*. Boulder, Westview Press. pp. 373-397.
 This chapter "highlights a successful strategy for involving local people, knowledge, and custom in resource planning and action." (p. 374)
- 706 Moran, E. F., 1988.** Following the Amazonian highways. In: Denslow, J. S. and Padoch, C., eds. *People of the tropical rain forest*. Berkeley, University of California Press. pp. 155-162.
 The Amazon forests are no longer beyond the reach of national policy and people desiring land. Highways have largely replaced rivers as the avenues of access for settlers in the Amazon forest.
- 707 Murdia, R., 1982.** Forest development and tribal welfare: Analysis of some policy issues. In: Hallsworth, E. G., ed. *Socio-economic effects and constraints in tropical forest management*. New York, Wiley. pp. 31-41.
 Discusses the relationship between tribal interests and forest development in India.
- 708 Myers, N., 1986.** Forestland farming in western Amazonia: Stable and sustainable. *Forest Ecology and Management* 15(2):81-93.
 Discusses some "agro-ecosystem" styles of forest land farming that are sustainable. Several examples occur among the forest tribes of western Amazonia.
- 709 Nations, J. D. and Nigh, R. B., 1980.** The evolutionary potential of the Lacandon Maya sustained-yield tropical forest agriculture. *Journal of Anthropological Research* 36(1):1-30.
 "The authors describe the Lacandon systems of agricultural production, wildlife management, and forest maintenance, then explore the potential these strategies hold for investigation of ancient Maya food production systems and the development of modern resource utilization schemes in the humid tropics." (p. 1)
- 710 Nations, J. D., 1988.** The Lacandon Maya. In: Denslow, J. S. and Padoch, C., eds. *People of the tropical rain forest*. Berkeley, University of California Press. pp. 86-88.
 The Lacandon Maya Indians inhabit the remnants of the Selva Lacandona in Chiapas, Mexico, the largest remaining tropical rain forest in North America.

- 711 Orejuela, J. E., 1992.** Traditional production systems of the Awa (Cuaiquer) Indians of southwestern Colombia and neighboring Ecuador. In: Redford, K. H. and Padoch, C., eds. *Conservation of Neotropical forests: Working from traditional resource use.* New York, Columbia University Press. pp. 58-82.
The author considers the involvement of the local populations in the conservation of tropical areas and in the promotion of sound ecological and economic natural resource use activities, to be essential to their long-term well-being.
- 712 Padoch, C. and Vayda, A. P. 1983.** Patterns of resource use and human settlement in tropical forests. In: Golley, F. B., ed. *Tropical rain forest ecosystems: Structure and function.* New York, Elsevier. *Ecosystems of the World* 14A. pp. 301-313.
Discusses indigenous resource use in tropical forests. Types of users discussed are: Hunter-gatherers; shifting cultivators; and permanent-field farmers.
- 713 Padoch, C. and Jong, W. de, 1989.** Production and profit in agroforestry: An example from the Peruvian Amazon. In: Browder, J. O., ed. *Fragile lands of Latin America: Strategies for sustainable development.* Boulder, Westview Press. pp. 102-113.
Reports on a study of the subsistence and commercial production of two indigenous groups in Amazonia.
- 714 Padoch, C. and Jong, W. de, 1987.** Traditional agroforestry practices of native and ribereno farmers in the lowland Peruvian Amazon. In: Gholz, H., ed. *Agroforestry: Realities, possibilities, and potentials.* Dordrecht, Martinus Nijhoff. pp. 179-194.
"The information presented shows that basic traditional swidden-fallow agroforestry practices are adaptable to varying environmental and economic situations." (p. 179)
- 715 Padoch, C., 1987.** A study of a Bornean system of intensive agriculture as a model for development. In: Lugo, A. E. et al., eds. *People and the tropical forest: A research report from the United States Man and the Biosphere Program.* Washington, DC, Government Printing Office. pp. 10-11.
- 716 Padoch, C., Chota Inuma, J., Jong, W. de, and Unruh, J., 1985.** Amazonian agroforestry: A market oriented system in Peru. *Agroforestry Systems* 3(1):47-58.
"This article discusses a market-oriented cyclic agroforestry system practiced by non-tribal 'Mestizo' farmers in Tamshiyacu, Peru." (p. 47.) "One major constraint on extending this type of production system is the lack of cheap and reliable transportation facilities throughout much of the Amazon." (p. 57)
- 717 Peck, R. B., 1990.** Promoting agroforestry practices among small producers: The case of the Coca Agroforestry Project in Amazonian Ecuador. In: Anderson, A. B., ed. *Alternatives to deforestation: Steps toward sustainable use of the Amazon rain forest.* New York, Columbia University Press. pp. 167-180.
Discusses an agroforestry extension project in Amazonian Ecuador.
- 718 Peck, R. B., 1984.** Traditional forestation strategies of local farmers in the tropics. In: Wiersum, K. F., ed. *Strategies and designs for afforestation, reforestation and tree planting.* Wageningen, Pudoc. pp. 205-216.

- 719 Peluso, N. L. and Poffenberger, M., 1989.** Social forestry in Java: Reorienting management systems. *Human Organization* 48(4):333-344.
 "This paper examines how social scientists worked with foresters in Java to evolve new management systems responsive to both national objectives and the needs of the rural poor." (p. 333)
- 720 Peluso, N. L., 1988.** Rich forests, poor people, and development: Forest access control and resistance in Java. Ph.D. Thesis, Cornell University; Ann Arbor, MI, University Microfilms International. 436 pp.
 "This study focuses on changes in forest access rights, institutions for forest access control, and rural people's use of production forests in Central Java, Indonesia." (p. xi)
- 721 Peluso, N. L., 1992.** Rich forests, poor people: Resource control and resistance in Java. Berkeley, University of California Press. 321 pp.
 Discusses the conflict between foresters and forest villagers in Java.
- 722 Peters, W. J. and Neuenschwander, L. F., 1988.** Slash and burn: Farming in the Third World forest. Moscow, ID, University of Idaho Press. 113 pp.
 Chapter 4 is entitled: "Social, cultural, economic, and political aspects of shifting cultivation and the use of fire."
- 723 Pinedo-Vasquez, M., Zarin, D., and Jipp, P., 1989.** Local management of forest resources in a rural community in northeast Peru. Yale School of Forestry and Environmental Studies, Tropical Resources Institute, TRI Working Paper no. 44B. 20 pp.
 Discusses indigenous systems of natural resource management in the Amazon Basin.
- 724 Plotkin, M. J., 1988.** Ethnobotany and conservation in the Guianas: The Indians of southern Suriname. In: Almeda, F. and Pringle, C. M., eds. *Tropical rainforests: Diversity and conservation*. San Francisco, California Academy of Sciences; A.A.A.S., Pacific Division. California Academy of Sciences Memoir no. 12. pp. 87-109.
 As tropical forests disappear, species which might prove useful to humans are also disappearing. This paper reviews the situation in Suriname and includes a discussion of the welfare of three local tribes of forest dwellers.
- 725 Poffenberger, M., 1990.** The evolution of forest management systems in Southeast Asia. In: Poffenberger, M., ed. *Keepers of the forest: Land management alternatives in Southeast Asia*. West Hartford, CT, Kumarian Press. pp. 7-26.
 This chapter reviews "some characteristics of indigenous forest management systems and their relation to early Southeast Asian kingdoms, and outlines the development of state forest control systems in the Philippines, Indonesia, and Thailand." (p. 8)
- 726 Poffenberger, M., editor, 1990.** Forest management partnerships: Regenerating India's forests: Executive summary of the Workshop on Sustainable Forestry, New Delhi, Sept. 10-12, 1990. New Delhi, Ford Foundation; Indian Environmental Society. 32 pp + appendix.
 Summarizes the efforts of the Indian forest departments to involve rural communities in forest management efforts to slow the rate of deforestation.

- 727 Poffenberger, M., editor, 1990. Keepers of the forest: Land management alternatives in Southeast Asia. West Hartford, CT, Kumarian Press. 289 pp.**
 The purpose of the authors of this collection of articles is to make an assessment of the "problems and possible solutions to deforestation through cooperative action between state forest agencies and forest communities." (p. xvii)
- 728 Posey, D., 1988. Kayapo Indian natural-resource management. In: Denslow, J. S. and Padoch, C., eds. People of the tropical rain forest. Berkeley, University of California Press. pp. 89-90.**
 The Kayapo inhabit the Amazonian rain forest.
- 729 Posey, D., 1991. Kayapo Indians: Experts in synergy. ILEIA Newsletter 7(4):3-5.**
 "Indigenous peoples can teach us how to attach greater value to the living tropical forest; they can teach us new models for sustained natural resource use and management." (p. 3)
- 730 Posey, D. A. and Balee, W., editors, 1989. Resource management in Amazonia: Indigenous and folk strategies. Bronx, New York Botanical Garden. Advances in Economic Botany. Vol. 7, 287 pp.**
 This book focuses on how native Amazonians manage the great array of natural resources available to them, including forest resources.
- 731 Posey, D. A., 1984. A preliminary report on diversified management of tropical forest by the Kayapo Indians of the Brazilian Amazon. In: Prance, G. T. and Kallunki, J. A., eds. Ethnobotany in the neotropics. Bronx, New York Botanical Garden. Advances in Economic Botany. Vol 1, pp. 112-126.**
- 732 Posey, D. A., 1989. Alternatives to forest destruction: Lessons from the Mebengokre Indians. Ecologist 19(6):241-244.**
 Discusses ways in which indigenous peoples sustainably manage rather than destroy the forests in which they live.
- 733 Posey, D. A., 1985. Indigenous management of tropical forest ecosystems: The case of the Kayapo Indians of the Brazilian Amazon. Agroforestry Systems 3(2):139-158.**
- 734 Posey, D. A., 1983. Indigenous ecological knowledge and development of the Amazon. In: Moran, E. F., ed. The dilemma of Amazonian development. Boulder, Westview Press. pp. 225-257.**
 The author advocates integrating knowledge of indigenous peoples with modern technological know-how in order to bring about ecologically sound development in the Amazon.

- 735 Posey, D. A., 1983.** Indigenous knowledge and development: An ideological bridge to the future. *Ciencia e Cultura* 35(7):877-894.
The author suggests that "indigenous cultures form a valuable human resource that offers a rich and untapped source of information about the natural resources of the Amazon Basin. If the knowledge of indigenous peoples can be applied to modern technological knowhow, then a new path for ecologically sound development of the Amazon will have been found." (p. 877)
- 736 Posey, D. A., 1992.** Interpreting and applying the "reality" of indigenous concepts: What is necessary to learn from the natives? In: Redford, K. H. and Padoch, C., eds. *Conservation of Neotropical forests: Working from traditional resource use.* New York, Columbia University Press. pp. 21-34.
- 737 Posey, D. A., 1985.** Native and indigenous guidelines for new Amazonian development strategies: Understanding biological diversity through ethnoecology. In: Hemming, J., ed. *Change in the Amazon Basin.* Manchester, Manchester University Press. Vol. 1, pp. 156-181.
- 738 Posey, D. A., 1982.** The keepers of the forest. *Garden* 6(1):18-24.
Discusses indigenous agriculture among the Kayapo Indians in the Amazon rainforest.
- 739 Posey, D. A., 1992.** Traditional knowledge, conservation, and "the rain forest harvest." In: Plotkin, M. and Famolare, L., eds. *Sustainable harvest and marketing of rain forest products.* Washington, DC, Island Press. pp. 46-50.
Discusses how native peoples can teach new models for sustained natural resource use and management.
- 740 Rambo, A. T., 1984.** Orang Asli interactions with the Malaysian tropical rain forest ecosystem. In: Rambo, A. T. and Sajise, P. E., eds. *An introduction to human ecology research on agricultural systems in Southeast Asia.* College, Laguna, University of the Philippines at Los Banos. pp. 237-253.
Discusses the interactions between the Orang Asli social systems and the tropical forest ecosystems, and examines their impact on the tropical rain forest ecosystem.
- 741 Redford, K. H. and Padoch, C., editors, 1992.** *Conservation of Neotropical forests: Working from traditional resource use.* New York, Columbia University Press. 475 pp.
This book contains contributions from a 1989 workshop on traditional resource use in neotropical forests. The articles discuss the interactions of forest peoples and forest resources in the lowland tropics of the Western Hemisphere.
- 742 Rice, D., 1984.** Indigenous forest dwellers in forest development planning. In: Velasco, A. B. et al., eds. *Proceedings of the First ASEAN Forestry Congress, Manila, Oct. 10-15, 1983.* Quezon City, Philippines, Bureau of Forest Development. Vol. 3, pp. 756-769.
"Indigenous forest dwellers, as opposed to other forest users, tend to have a more holistic approach to forest development and planning, and will accomplish viable and sustainable development of the forests if they are given adequate land security and access to technologies." (p. 756)

- 743 Rodriguez, S., Vargas, A., Dedina, S., and Stanfield, D., 1991.** An annotated bibliography on community management of forest resources in Latin America. University of Wisconsin-Madison, Land Tenure Center. 60 pp.
Includes a section of references relating to traditional systems of forest resource management.
- 744 Sahabat Alam Malaysia, 1990.** Solving Sarawak's forest and native problem. Penang, Malaysia, Sahabat Alam Malaysia. 43 pp.
Discusses the problem of deforestation in Sarawak and the ecological and human dimensions of the problem. Includes a discussion of the measures being taken by the United Nations General Assembly to adopt a Universal Declaration detailing the rights of indigenous peoples.
- 745 Salick, J., 1992.** Amuesha forest use and management: An integration of indigenous use and natural forest management. In: Redford, K. H. and Padoch, C., eds. Conservation of Neotropical forests: Working from traditional resource use. New York, Columbia University Press. pp. 305-332.
Discusses a system of natural forest management used by an indigenous group of Amazonian people, the Amuesha of Peru. The system allows for the regeneration of nontimber vegetation along with timber products.
- 746 Samapuddhi, K., 1975.** Thailand's forest villages. *Unasylva* 27(107):20-23.
Describes a system which offers hill tribesmen and others who practice slash and burn agriculture inducements to settle down in a forest village and reforest the area nearby.
- 747 Schwartz, T., 1989.** The Brazilian forest people's movement. *Ecologist* 19(6):245-247.
Discusses the efforts of the Brazilian rubber tappers to try to gain economic autonomy through cooperatively run extractive reserves. Their efforts are defending the forests from destruction by loggers and ranchers.
- 748 Schwartzman, S., 1986.** Seringueiros defend the rainforest in Amazonia. *Cultural Survival Quarterly* 10(2):41-42.
- 749 Seeger, A., 1982.** Native Americans and the conservation of flora and fauna in Brazil. In: Hallsworth, E. G., ed. Socio-economic effects and constraints in tropical forest management. New York, Wiley. pp. 177-190.
Discusses "the difficulties arising where Indian lands and National Parks, or conservation-oriented areas are superimposed or connected." (p. 188)
- 750 Shepherd, G., 1990.** Conservation, development, and the future of the rainforest. *Appropriate Technology* 17(3):1-3.
Focuses on indigenous inhabitants as being "the most experienced potential managers" of the rainforest.

751 Shepherd, G., 1992. Managing Africa's tropical dry forests: A review of indigenous methods. London, Overseas Development Institute, ODI Agricultural Occasional Paper no. 14. 117 pp.

This paper "presents the results of an extensive literature search and analysis of indigenous forest management practices in dryland Africa." (p. 7)

752 Siebert, S. F. and Belsky, J. M., 1985. Some socioeconomic and environmental aspects of forest use by lowland farmers in Leyte, Philippines and their implications for agricultural development and forest management. *Philippine Quarterly of Culture and Society* 13(4):282-296.

"This article presents some socioeconomic aspects and environmental implications associated with forest conversion and agricultural intensification among migrant cultivators in a Leyte, Philippines village." (p. 283)

753 Spears, J. S., 1981. Small farmers - or the tropical forest ecosystem? A review of sustainable land use systems for tropical forest areas. In: Mergen, F., ed. *International symposium on tropical forests utilization and conservation: Ecological, sociopolitical and economic problems and potentials.* New Haven, CT, Yale University, School of Forestry and Environmental Studies. pp. 14-47.

The author's premise is that "a deliberate shift in the emphasis of conservation and development strategy is needed." "The key issue is to attack the root cause of forest destruction, i.e. providing small farmers with a viable alternative to shifting cultivation." (p. 15)

754 Srithong, P., 1992. Agroforestry for the subsistence cultivator. In: Taylor, D. A., ed. *NGOs and tree-growing programs: Working between farmers and governments.* Report of an international workshop, Pune, India, Sept. 1991. Bangkok, Winrock International. pp. 79-83.

This paper discusses "the impacts of tropical forest destruction on the livelihood and ecology of the Karen people, reforestation programs initiated or licensed by the government, and an agroforestry program initiated by the local people as an attempt to cope with these problems." (p. 79)

755 Stewart, T., 1992. Land-use options to encourage forest conservation on a tribal reservation in the Philippines. *Agroforestry Systems* 18(3):225-244.

This study focuses on non-timber forest products use and analyzes the economic sustainability of four different land-use options for the Ati tribe in the Philippines.

756 Sumitro, A., 1985. Social impact of commercial timber extraction upon local communities in Indonesia's tropical rain forests. In: Rao, Y. S. et al., eds. *Community forestry: Socio-economic aspects.* Bangkok, FAO Regional Office for Asia and the Pacific. pp. 215-224.

This article evaluates the success of a program through which lumber companies were to bear the cost of community development schemes.

- 757 Taylor, K. I., 1988.** Deforestation and Indians in Brazilian Amazonia. In: Wilson, E. O. and Peter, F. M., eds. *Biodiversity*. Washington, DC, National Academy Press. pp. 138-144.

Discusses the effects of deforestation on the human inhabitants of the tropical forest and discusses management of the forests by indigenous peoples.

- 758 Taylor, K. I., 1988.** Indian rights in Amazonia. In: Denslow, J. S. and Padoch, C., eds. *People of the tropical rain forest*. Berkeley, University of California Press. pp. 91-92.

The destruction of the world's remaining tropical rain forests most directly affects the indigenous peoples who live in these forests. This paper discusses recent progress of Amazonian Indians in forming organizations through which their rights can be defended.

- 759 Treacy, J., 1982.** Bora Indian agroforestry: An alternative to deforestation. *Cultural Survival Quarterly* 6(2):15-16.

This research was conducted in Brillo Nuevo, a community of Bora Indians on a tributary of the Amazon.

- 760 Uquillas, J. E., 1989.** Social impacts of modernization and public policy, and prospects for indigenous development in Ecuador's Amazonia. In: Schumann, D. A. and Partridge, W. L., eds. *The human ecology of tropical land settlement in Latin America*. Boulder, Westview Press. pp. 407-431.

Discusses the effect of new patterns of economic production (such as conversion of forest to pasture) on the native ethnic groups in the Ecuadorian Amazon and on the tropical forest ecosystem on which they depend. Alternative forest management systems such as community and individual forest production are also discussed.

- 761 Vayda, A. P., Pierce Colfer, C. J., and Brotokusumo, M., 1980.** Interactions between people and forests in East Kalimantan. *Impact of Science on Society* 30(3):179-190.

The authors stress the urgency of making forest management in the Indonesian province more effective and of combining it with development that benefits the people who live in and use the forest.

- 762 Vayda, A. P., 1987.** Interactions between people and forests in East Kalimantan, Indonesia. In: Lugo, A. E. et al., eds. *People and the tropical forest: A research report from the United States Man and the Biosphere Program*. Washington, DC, Government Printing Office. pp. 15-17.

- 763 Viegas, P. and Menon, G., 1985.** The social costs of deforestation. *Social Action* 35(4):320-350.

This paper discusses the social costs of deforestation in India caused by the present pattern of development. Also discussed is the impact of deforestation on the cultural, social, and economic life of the forest dwellers, particularly tribals.

- 764 Waiko, J. D., 1977.** The people of Papua New Guinea, their forests and their aspirations. In: Winslow, J. H., ed. The Melanesian environment. Canberra, Australian National University Press. pp. 407-427.
Discusses exploitation of the forest resources of the area by foreign companies and the reaction and opposition of the people to this exploitation.
- 765 Warner, K., 1991.** Shifting cultivators: Local technical knowledge and natural resource management in the humid tropics. Rome, Food and Agriculture Organization, Community Forestry Note no. 8. 80 pp.
This publication "highlights the local technical knowledge applied by swidden/fallow farmers when making resource management decisions." (p. iii)
- 766 Wiersum, K. F., 1980.** Possibilities for use and development of indigenous agroforestry systems for sustained land-use on Java. In: Furtado, J. I., ed. Tropical ecology and development: Proceedings of the 5th International Symposium of Tropical Ecology, Kuala Lumpur, Apr. 16-21, 1979. Kuala Lumpur, International Society of Tropical Ecology. Vol.1, pp. 515-521.
- 767 Wilkie, D. S., 1988.** Hunters and farmers of the African forest. In: Denslow, J. S. and Padoch, C., eds. People of the tropical rain forest. Berkeley, University of California Press. pp. 111-126.
Discusses one of the last cultures of hunter-gatherers remaining in Africa, the Pygmies. Their culture is threatened as destruction of the rain forest continues.
- 768 World Rainforest Movement, 1989.** The battle for Sarawak's forests. Penang, Malaysia, World Rainforest Movement; Sahabat Alam Malaysia. 190 pp.
A collection of articles, some of them from newspapers, documenting the efforts of Sarawak natives to save their forests.

MANAGEMENT, POLICY, AND PLANNING



769 Adeyaju, S. K., 1976. Land tenure problems and tropical forestry development. [Rome] Food and Agriculture Organization, Committee on Forest Development in the Tropics, 4th Session, Rome, Nov. 15-20, 1976, FO:FDT/76/5(b). 36 pp.

The purposes of this paper are: (1) To review the "tenurial circumstances in which the policy of forest reservation was introduced to the tropics;" (2) "to outline the problems that have resulted from the superimposition of alien land tenures on customary land-use practices;" and (3) to highlight ways of reconciling forest management objectives with the needs of development. (p. 3)

770 Adeyaju, S. K., 1991. Land tenure problems in tropical areas. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area C. *Revue Forestiere Francaise*, Hors Serie no. 3. pp. 93-103.

771 Adeyaju, S. K., 1976. Land use and tenure in the tropics. *Unasyuva* 28(112/113):26-41. Including forestry land use.

772 Anderson, D., 1987. The economics of afforestation: A case study in Africa. Baltimore, Johns Hopkins University Press, World Bank Occasional Paper no. 1, New Series. 86 pp. Part 1 discusses deforestation in Africa. Part 2 is a case study of northern Nigeria and shows how the ecological benefits of rural afforestation programs can be economically beneficial to the region as well.

773 Appanah, S., Weinland, G., Bossel, H., and Krieger, H., 1990. Are tropical rain forests non-renewable? An inquiry through modelling. *Journal of Tropical Forest Science* 2(4):331-348.

"According to the model, tropical forests such as the dipterocarp forests of the Far East are renewable, and can be managed, but only with long cutting cycles." (p. 347)

774 Arano, R. R., 1984. A conceptual framework for regional land-use planning and development. In: Velasco, A. B. et al., eds. Proceedings of the First ASEAN Forestry Congress, Manila, Oct. 10-15, 1983. Quezon City, Philippines, Bureau of Forest Development. Vol. 2, pp. 413-428.

Discusses land use planning in the Philippines.

- 775 Arnold, J. E. M., 1974.** Lessons of experience in planning forestry development. [Rome] Food and Agriculture Organization, Forestry Dept. 29 pp.
Paper prepared for the Tenth Commonwealth Forestry Conference, Sept. 1974. Reviews experiences (almost all in activities with which FAO has been associated) in the application of planned forestry development, mainly in developing countries and usually on the basis of cost/benefit analysis.
- 776 Ashton, P. S. and Brunig, E. F., 1975.** The variation of tropical forest in relation to environmental factors and its relevance to land-use planning. In: Tropical moist forest. *Mitteilungen der Bundesforschungsanstalt für Forst und Holzwirtschaft* 109:59-86.
A background paper prepared for an FAO technical conference on the tropical moist forest, planned to take place in 1975, but never held.
- 777 Ashton, P. S., 1988.** A question of sustainable use. In: Denslow, J. S. and Padoch, C., eds. *People of the tropical rain forest*. Berkeley, University of California Press. pp. 185-196.
The author cites India and Malaysia as having among the best records for tropical forest management in the developing world.
- 778 Ayling, R. D., 1991.** Deforestation, research and the Tropical Forestry Action Plan. *Forestry Chronicle* 67(5):539-541.
Discusses criticism of the TFAP and the three TFAP reviews carried out in 1990 by FAO, the World Resources Institute, and the World Rainforest Movement. Concludes by discussing the role of research in the TFAP process.
- 779 Azambuja, D. de, 1970.** [Considerations and suggestions for the formulation of a forest policy for Amazonia.] *Brasil Florestal* 1(4):3-14.
In Portuguese.
- 780 Bakewell, D. R., 1975.** Harvesting, utilization and economic implications of tropical plantations. In: *Permanent Association Committees Proceedings, 1975: Global forestry and the western role*. Portland, Western Forestry and Conservation Association. pp. 92-97.
- 781 Bandyopadhyay, J. and Shiva, V., 1987.** Forestry myths and the World Bank: A critical review of "Tropical forests - Call for action." In: *Proceedings of the Conference on Forest Resources Crisis in the Third World, Penang, Malaysia, Sept. 6-8, 1986*. Penang, Sahabat Alam Malaysia. pp. 272-283.
Criticizes the report published by the World Resources Institute for the World Bank and UNDP.
- 782 Barbier, C., Gbadoe, E., and Taponot, M., 1990.** [Plantations of the AFRI Project: Forest management and industrial reforestation in the South-Togo.] *Bois et Forêts des Tropiques* 224:5-20.
In French, with English summary.
- 783 Baumer, M., 1990.** The potential role of agroforestry in combating desertification, with special reference to Africa. Wageningen, Technical Centre for Agricultural and Rural Cooperation. 250 pp.

- 784 Baur, G. N., 1968.** The ecological basis of rainforest management. [New South Wales, Blight, Govt. Printer.] 499 pp.
In addition to discussing the environment of the rainforest and its structure and floristic composition, the report covers aspects of management and forest policy in rain forest areas.
- 785 Bekkering, T. D., 1991.** Implications of the greenhouse effect for tropical forestry development policies. BOS Nieuwsletter 10(2):42-49.
The author states that "one of the main causes of deforestation in the tropics is the ever continuing expansion of agricultural areas." He reports the conclusions of a study which analyzed future land requirements for agricultural subsistence production for 117 tropical countries, based on population trends, and agricultural production capacities of lands. (p. 43)
- 786 Beltran, E., 1966.** Influence of world trends on tropical forestry policies in Latin America. Mimeo, 6CMF/G/C.T.VI/2. 14pp.
This is an English translation of a paper published in Spanish in the Proceedings of the Sixth World Forestry Congress, Madrid, 1966. Vol.3, pp. 3086-3094.
- 787 Bene, J. G., Beall, H. W., and Cote, A., 1977.** Trees, food and people: Land management in the tropics. Ottawa, International Development Research Centre. 52 pp.
Includes chapters on the environmental significance of the tropical forest, utilization of the forest resource, and research needs and priorities.
- 788 Berenschot, L. M., 1986.** The Tropical Forestry Action Plan. Wageningen, Stichting voor Nederlandse Bosbouw Ontwikkelingssamenwerking, BOS Document no. 3. 30 pp.
- 789 Berger, R., 1980.** The Brazilian Fiscal Incentive Act's influence on reforestation activity in Sao Paulo State. Ph.D. Thesis, Michigan State University; Ann Arbor, MI, University Microfilms International. 81 pp.
The Fiscal Incentives Law offered tax incentives to individuals and corporations which greatly accelerated the establishment of forest plantations.
- 790 Bertault, J. G., 1991.** [The silviculture of tropical rain forests: An asset for their management.] Bois et Forêts des Tropiques 227:25-30.
In French, with English summary.
- 791 Bertrand, A., 1991.** [Ownership problems in tropical African forests: The ownership of forests.] In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area C. Revue Forestière Française, Hors Série no. 3. pp. 104-109.
In French.
- 792 Bethel, J. S. and Briggs, D. G., 1978.** Tending forests in the tropics: A path between possibilities and necessities. Mitteilungen der Forstlichen Bundes-Versuchsanstalt, Vienna 124:251-278.
The emphasis is on "silvicultural manipulation of the forest."

- 793 Bethel, J. S. and Briggs, D. G., 1977.** Tending forests in the tropics: A path between possibilities and necessities. University of Washington, College of Forest Resources, Institute of Forest Products, Contribution no. 33. 28 pp.
Proposes a "systems methodology" for the analysis of "the total forest materials supply system."
- 794 Beusekom, C. F. van, Goor, C. P. van, and Schmidt, P., 1987.** Tropical forests: Use or abuse? Ede, Netherlands, Tropenbos Programme Information Series no. 4. 12 pp.
A summary of the proceedings of the MAB-Unesco Symposium "Tropisch Regenwoud: Verantwoord Gebruik" held in Amsterdam, Dec. 10-12, 1984. Outlines a basic approach for management of tropical rain forest lands.
- 795 Beusekom, C. F. van, Goor, C. P. van, and Schmidt, P., editors, 1987.** Wise utilization of tropical rain forest lands. Ede, Netherlands, Tropenbos Programme, Tropenbos Scientific Series no. 1. 154 pp.
This book contains the full proceedings of the Netherlands MAB-Unesco Symposium "Tropisch Regenwoud: Verantwoord Gebruik" held in Amsterdam, Dec. 10-12, 1984. The contributions in this volume outline a basic approach for management of tropical rain forest land.
- 796 Binswanger, H. P., 1989.** Brazilian policies that encourage deforestation in the Amazon. [Washington, DC] World Bank, Environment Department Working Paper no. 16. 24 pp.
The author contends that "general tax policies, special tax incentives, the rules of land allocation, and the agricultural credit system all accelerate deforestation in the Amazon." (p. ii)
- 797 Binswanger, H. P., 1991.** Brazilian policies that encourage deforestation in the Amazon. *World Development* 19(7):821-829.
This paper shows that general tax policies, special tax incentives, the rules of land allocation, and the agricultural credit system all accelerate deforestation in the Amazon.
- 798 Boardo, E. L., 1988.** Incentive policies and forest use in the Philippines. In: Repetto, R. and Gillis, M., eds. *Public policies and the misuse of forest resources*. New York, Cambridge University Press. pp. 165-203.
The author concludes that "the rapid rate at which the Philippines' forests have been depleted shows government's lack of foresight and inability to manage resources." (p. 198)
- 799 Boerboom, J. H. A. and Jonkers, W. B. J., 1987.** Land use in tropical rain forest areas. In: Beusekom, C. F. van et al., eds. *Wise utilization of tropical forest lands*. Ede, Netherlands, Tropenbos Programme, Tropenbos Scientific Series no. 1. pp. 30-45.
Discusses individual types of land use such as recreation and tourism, gathering and hunting, wood production, and shifting cultivation.
- 800 Borota, J., 1976.** [Management of natural tropical forests.] *Silvaecultura Tropica et Subtropica* 5:85-95.
In Czech, with English summary.

- 801 Bowonder, B., Prasad, S. S. R., and Unni, N. V. M., 1987.** Afforestation in India: Policy and strategy reforms. *Land Use Policy* 4(2):133-146.
This article examines the status of forests, reasons for deforestation, and the policy interventions needed to arrest deforestation.
- 802 Bowonder, B., 1983.** Forest depletion: Some policy options. *Resources Policy* 9(3):206-224.
The author concludes that unless effective policy measures are implemented, the forest resources of developing countries may become "non-renewable."
- 803 Boxman, O. et al., 1987.** Forest land use in Suriname. In: Beusekom, C. F. van et al., Wise utilization of tropical rain forest lands. Ede, Netherlands, Tropenbos Programme, Tropenbos Scientific Series no. 1. pp. 119-129.
Co-authors of this case study are: N. R. de Graaf, J. Hendrison, W. B. J. Jonkers, R. L. H. Poels, P. Schmidt, and R. Tjon Lim Sang.
- 804 Boxman, O. et al., 1985.** Towards sustained timber production from tropical rain forests in Suriname. *Netherlands Journal of Agricultural Science* 33(2):125-132.
Discusses a system for sustained timber production in the tropical rain forests of Suriname. The system consists of two independent aspects: (1) The Celos Harvesting System, and (2) The Celos Silvicultural System. Co-authors are: N. R. de Graaf, J. Hendrison, W. B. J. Jonkers, R. L. H. Poels, P. Schmidt, and R. Tjon Lim Sang.
- 805 Brazilian Institute of Forestry, 1982.** Guidelines for Brazilian forestry policy, period 1979-1985. In: Oldeman, R. A. A., ed. *Tropical hardwood utilization: Practice and prospects*. The Hague, Martinus Nijhoff. pp. 125-142.
- 806 Brienza Junior, S. and Yared, J. A. G., 1991.** Agroforestry systems as an ecological approach in the Brazilian Amazon development. *Forest Ecology and Management* 45(1-4):319-323.
Provides examples of how agroforestry systems can be useful to farmers, plantation foresters and ranchers in the Brazilian Amazon region.
- 807 Brienza Junior, S. and Yared, J. A. G., 1991.** Agroforestry systems as an ecological approach in the Brazilian Amazon development. In: Jarvis, P. G., ed. *Agroforestry: Principles and practice*. New York, Elsevier, pp. 319-323.
This paper discusses EMBRAPA's agroforestry systems experience in the Brazilian Amazon. Reprinted from *Forest Ecology and Management* 45:319-323.
- 808 Browder, J. O., 1988.** Public policy and deforestation in the Brazilian Amazon. In: Repetto, R. and Gillis, M., eds. *Public policies and the misuse of forest resources*. New York, Cambridge University Press. pp. 247-297.
- 809 Browder, J.O., 1988.** The social costs of rain forest destruction: A critique and economic analysis of the "hamburger debate." *Interciencia* 13(3):115-120.
"This paper addresses two questions: Is there a difference between the private and social costs and benefits of converting rain forest to pasture? What relevance is the difference, if any, to the causes of large scale tropical deforestation? (p. 115)

- 810 Bruenig, E. F. and Poker, J., 1989.** Management of tropical rainforests: Utopia or chance of survival? Proceedings of an international symposium, Feldafing, FRG, Jan. 1989. Baden-Baden, Nomos Verlagsgesellschaft. 112 pp.
This report includes "case studies and the compiled experiences of experts from relevant disciplines concerned with tropical forest management, its utilization, and with the people living near, and depending upon, the tropical rainforests." (p. 8)
- 811 Bruenig, E. F. et al., 1986.** Ecologic-socioeconomic system analysis and simulation: A guide for application of system analysis to the conservation, utilization and development of tropical and subtropical land resources in China. Hamburg, Federal Research Centre for Forestry and Forest Products. 388 pp.
This volume was compiled from the proceedings of the China Resources Conservation, Utilization and Development Seminar, South China Institute of Botany, Academia Sinica, Guangzhou, China, Feb-Mar. 1986. The seminar was organized by German Foundation for International Development (DSE), Academia Sinica, and China MAB.
- 812 Bruenig, E. F., 1989.** Use and misuse of tropical rain forests. In: Lieth, H. and Werger, M. J. A., eds. Tropical rain forest ecosystems: Biogeographical and ecological studies. New York, Elsevier, Ecosystems of the World 14B. pp. 611-636.
Discusses deforestation and exploitation, followed by a discussion of forest management planning and control.
- 813 Brunig, E. F., Buch, M. von, Heuvel dop, J., and Panzer, K. F., 1975.** Stratification of the tropical moist forest for land-use planning. In: Tropical moist forest. Mitteilungen der Bundesforschungsanstalt für Forst und Holzwirtschaft 109:1-57.
Includes a section on the contribution of the stratification of tropical moist forest to land use planning. This is a "position": paper prepared for a technical conference on the tropical moist forest, planned by FAO to take place in 1975, but never held.
- 814 Brunig, E. F., Buch, M. von, Heuvel dop, J., and Panzer, K. F., 1976.** Stratification of the tropical moist forests for land-use planning. Committee on Forest Development in the Tropics, 4th session, Rome, Nov. 15-20, 1976. [Rome] Food and Agriculture Organization, FO:FDT/76/8(c). 37 pp.
- 815 Brunig, E. F., Heuvel dop, J., and Schneider, T. W., 1979.** [Trends in land-use development in the humid tropical zone: Conflicts and possible solutions seen in the perspective of the Unesco program "Man and the Biosphere" (MAB).] Forstarchiv 50(4):75-77.
- 816 Budowski, G., 1981.** The place of agro-forestry in managing tropical forests. In: Mergen, F., ed. International symposium on tropical forests utilization and conservation: Ecological, sociopolitical and economic problems and potentials. New Haven, CT, Yale University School of Forestry and Environmental Studies. pp. 181-194.

- 817 Budowski, G., 1982.** The socio-economic effects of forest management on the lives of people living in the area: The case of Central America and some Caribbean countries. In: Hallsworth, E. G., ed. *Socio-economic effects and constraints in tropical forest management*. New York, Wiley. pp. 87-102.
Analyzes 4 broad categories of forest management: Management for protection; for wood production; for agroforestry; and for multiple use.
- 818 Burger, D., 1984.** [Stability and learning capacity: Fundamental problems of sustained production, planning in tropical forests.] *Allgemeine Forst und Jagdzeitung* 155(1):1-4.
"After discussing stability of known tropical production systems, the article refers to criteria for the development of stable production systems. Emphasis is given to the need of special stability-indicators for tropical production systems." (p. 4.) In German, with English summary.
- 819 Burley, F. W., 1988.** The Tropical Forestry Action Plan: Recent progress and new initiatives. In: Wilson, E. O. and Peter, F. M., eds. *Biodiversity*. Washington, DC, National Academy Press. pp. 403-408.
- 820 Buschbacher, R., Elliott, C., Reed, D., and Sullivan, F., 1990.** The World Bank's new Forestry Policy Brief: A WWF position. Gland, Switzerland [World Wildlife Fund.] 5 pp.
Expresses the opinion of the WWF "that the first draft of the Forest Policy Brief is deficient in a number of respects." Includes criteria for evaluating tropical forestry policies and projects.
- 821 Buschbacher, R. J., 1990.** Ecological analysis of natural forest management in the humid tropics. In: Goodland, R., ed. *Race to save the tropics: Ecology and economics for a sustainable future*. Washington, DC, Island Press.
Evaluates the natural forest management systems that have been used in various tropical areas.
- 822 Buschbacher, R. J., Uhl, C., and Serrao, E. A. S., 1987.** Large-scale development in eastern Amazonia. Case study no. 10: Pasture management and environmental effects near Paragominas, Para. In: Jordan, C. F., ed. *Amazonian rain forests: Ecosystem disturbance and recovery*. New York, Springer-Verlag. *Ecological Studies*. Vol. 60, pp. 90-99.
- 823 Buschbacher, R. J., 1990.** Natural forest management in the humid tropics: Ecological, social, and economic considerations. *Ambio* 19(5):253-258.
- 824 Cabarle, B. and Zazueta, A., 1992.** Gaining ground: People's participation in the tropical forestry action plan for Ecuador. *Forests, Trees and People Newsletter* 15/16:32-35.
"This article summarizes some of the work carried out by World Resources Institute (WRI) in Ecuador to support the active participation of local NGOs and grassroots organizations in developing the Tropical Forestry Action Plan (TFAP)/Ecuador." (p. 32)

- 825 Caesar, J. C., 1991.** Agroforestry in Guyana: Status and potential. In: Proceedings of the Humid Tropical Lowlands Conference: Development strategies and natural resource management, Panama City, June 1991. Vol. IV. Bethesda, MD, Development Strategies for Fragile Lands. pp. 49-61.
This paper outlines some of the potentials of agroforestry as a viable alternative to unsustainable farming systems in Guyana.
- 826 Caillez, F., 1991.** [Management of tropical forests.] In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area D, Part 1. Revue Forestiere Francaise, Hors Serie no. 4. pp. 311-319.
In French, with English summary.
- 827 Cailliez, F., 1991.** [The management of tropical forests.] Bois et Forets des Tropiques 227:17-23.
In French, with English summary.
- 828 Cameron, D. M., 1981.** Problems of forest land classification in tropical and sub-tropical Australia. In: Carpenter, R. A., ed. Assessing tropical forest lands: Their suitability for sustainable uses. Dublin, Tycooly International Publishing Ltd. pp. 150-158.
- 829 Cameron, D. M., Gutteridge, R. C., and Rance, S. J., 1991.** Sustaining multiple production systems. 1. Forest and fodder trees in multiple use systems in the tropics. Tropical Grasslands 25(2):165-172.
"Advantages and disadvantages of including trees in multiple land use systems are listed and their role and potential discussed." (p. 165)
- 830 Camino, R. de, 1987.** [Some economic considerations in the management of tropical forests.] In: Figueroa Colon, J. C. et al., eds. Management of the forests of tropical America: Prospects and technologies. Proceedings of a conference, San Juan, Puerto Rico, Sept. 22-27, 1986. U.S. Forest Service, Institute of Tropical Forestry. pp. 175-188.
In Spanish.
- 831 Campinhos, E., Jr., 1991.** Plantation of fast-growing species for tropical areas. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area D., Part 2. Revue Forestiere Francaise, Hors Serie no. 5. pp. 111-120.
- 832 Carpenter, R. A., editor, 1981.** Assessing tropical forest lands: Their suitability for sustainable uses: Proceedings of the Conference on Forest Land Assessment and Management for Sustainable Uses, Honolulu, June 19-28, 1979. Dublin, Tycooly International Publishing Ltd. 337 pp.
The purpose of this report is "to help land-use planners avoid misuse of land and allocate landscape units to uses that will be sustainable with available technology and management." (p. 3)

- 833 Catinot, R., 1970.** Summary of a Code for Experimental Management in the Dense Tropical Forests of Africa. In: Food and Agriculture Organization. Report of the second session of the FAO Committee on Forest Development in the Tropics, Rome, Oct. 21-24, 1969. Rome, FAO, FO:FDT-69 Rep. pp. 26-37.
The Code "aims at providing a general basis for any management plan in the African tropical dense forest, to the exclusion of all land use planning aiming at defining land suitability and constitution of a permanent forest estate." (p. 26)
- 834 Centre Technique Forestier Tropical, 1968.** Techniques and practices to maximize economic returns in natural tropical forests. In: Food and Agriculture Organization. Report of the first session of the FAO Committee on Forest Development in the Tropics, Rome, Oct. 18-20, 1967. Rome, FAO, FO/FDT/67 Rep. pp. 23-56.
- 835 Chan, H. H. and Liew, T. C., 1978.** Major management problems in dipterocarp forests in Sabah. *Malaysian Forester* 41(2):201-208.
Paper presented at the ASEAN Seminar on Tropical Rainforest Management, Kuantan, Nov. 7-10, 1977.
- 836 Chee Yoke Ling, 1988.** The Tropical Forestry Action Plan: People or profits? A response from a non-governmental perspective. In: McDermott, M. J., ed. The future of the tropical rain forest: Proceedings of an international conference, Oxford, June 27-28, 1988. Oxford, Oxford Forestry Institute. pp. 33-36.
The author is affiliated with the World Rainforest Movement.
- 837 Chin, S. C., 1989.** Managing Malaysia's forests for sustained production. *Wallaceana* 55-56:1-11.
- 838 Cleary, D., 1991.** The Brazilian rainforests: Politics, finance, mining and the environment. London, Economist Intelligence Unit, Special Report no. 2100. 66 pp.
This report views environmental issues as inseparable from their socioeconomic context.
- 839 Clement, J., 1991.** [Tropical Forestry Action Plan. An update.] In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area F., Part 2. *Revue Forestiere Francaise*, Hors Serie no. 8. pp. 341-349.
In French.
- 840 Coic, A. and Vantomme, P., 1991.** [Reflections on the management of dense forests in the Amazonian region.] In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area D, Part 1. *Revue Forestiere Francaise*, Hors Serie no. 4. pp. 327-332.
In French.
- 841 Contreras, A., 1988.** A regional TFAP for Latin America and the Caribbean. *Unasyuva* 40(159):6-18.
Discusses some of the forestry development issues facing Latin America and the Caribbean within the context of the Tropical Forestry Action Plan.

- 842 Cortes, E. V., 1984.** Management of natural forests. In: Velasco, A. B. et al., eds. Proceedings of the First ASEAN Forestry Congress, Manila, Oct. 10-15, 1983. Quezon City, Philippines, Bureau of Forest Development. Vol.2, pp. 205-209.
- 843 Coulter, J. K., 1992.** Population pressures, deforestation, and land in the wet tropical forest zones: The technical dimensions. In: Gregersen, H. et al., eds. Priorities for forestry and agroforestry policy research: Report of an international workshop. Washington, DC, International Food Policy Research Institute. pp. 33-54.
Discusses the causes and effects of deforestation and some possible technical solutions to the problem of deforestation. These technical innovations "could replace present systems and provide farmers with livelihoods at least equal to today's." (p. 33.) Concludes with a discussion of the policy issues involved.
- 844 Cruz, C. A. and Segura de los Angeles, M., 1984.** Policy issues on commercial forest management. Manila, Philippine Institute for Development Studies, Working Paper 84-03. [47] pp.
- 845 Cruz, W. and Gibbs, C., 1990.** Resource policy reform in the context of population pressure: The Philippines and Nepal. American Journal of Agricultural Economics 72(5):1264-1268.
The authors suggest that resource policy reform must focus on the problem of population growth and inappropriate institutional structures. They conclude that the institutional problem is most apparent in forest lands (p. 1264).
- 846 Dargavel, J. and Kengen, S., 1992.** Promise and performance of industrial plantations in two regions of Australia and Brazil. In: Steen, H. K. and Tucker, R. P., eds. Changing tropical forests: Historical perspectives on today's challenges in Central and South America. [Durham, NC] Forest History Society. pp. 217-232.
"The extensive plantations of fast-growing often exotic species that are being developed in these and other countries of the tropics and sub-tropics will be major suppliers of the world's industrial wood in the future." (p. 217)
- 847 Davidson, J., 1985.** Plantation forestry in relation to tropical moist forests in South East Asia. In: Davidson, J. et al., eds. The future of tropical rain forests in South East Asia. Gland, Switzerland, IUCN Commission on Ecology Papers no. 10. pp. 101-110.
Outlines the present status of plantations in the tropics. Advocates the establishment of plantations on denuded land rather than relying on further clearing of intact natural tropical moist forest for tree plantations.
- 848 Davidson, J., 1981.** Status and methods of forest land classification in Papua New Guinea. In: Carpenter, R. A., ed. Assessing tropical forest lands: Their suitability for sustainable uses. Dublin, Tycooly International Publishing Ltd. pp. 247-276.

- 849 Davidson, J., Tho Yow Pong, and Bijleveld, M., editors, 1985.** The future of tropical rain forests in South East Asia. Gland, Switzerland, International Union for Conservation of Nature and Natural Resources, Commission on Ecology Papers no. 10. 127 pp.
 Proceedings of a symposium organized by the Forest Research Institute, Kepong, Malaysia and the IUCN Commission on Ecology, held in Kepong, Malaysia on Sept. 1-2, 1983. This volume is supplement to vol. 5 of the Environmentalist.
- 850 Davis, B. W., 1990.** The political agenda. In: Webb, L. J. and Kikkawa, J., eds. Australian tropical rainforests: Science, values, meaning. East Melbourne, CSIRO. pp. 172-175.
- 851 Dawkins, H. C., 1958.** The management of natural tropical high-forest with special reference to Uganda. University of Oxford, Imperial Forestry Institute, Institute Paper no. 34. 155 pp.
- 852 Dee, P. S., 1991.** The economic consequences of saving Indonesia's forests. Canberra, Australian National University, National Centre for Development Studies, Working Paper no. 91/7. 25 pp.
 "In this paper two aspects of the policy problem are addressed: The nature of any forestry set-aside target which may be implemented...and the identification of the distributional implications of such a set-aside program." (abstract)
- 853 Deutscher Bundestag, 1990.** Protecting the tropical forests: A high-priority international task: 2nd report of the Enquete-Commission "Preventive Measures to Protect the Earth's Atmosphere," of the 11th German Bundestag. Bonn, Deutscher Bundestag, Referat Öffentlichkeitsarbeit. 968 pp.
 "This report contains an in-depth survey of the extent and development of tropical deforestation, of the reasons for this destruction, and of the impact that it is having and will have. In addition, possibilities for action to protect the tropical forests are presented." (pp. 6-7)
- 854 Diaz, C. P., 1982.** Socio-economic thrusts in an integrated forest management system: The Philippine case. In: Hallsworth, E. G., ed. Socio-economic effects and constraints in tropical forest management. New York, Wiley. pp. 107-122.
 Discusses several socioeconomic approaches to forest management implemented by the Philippine Bureau of Forest Development.
- 855 Diaz, C. P., 1975.** The economics of planting in logged-over areas in Philippine forests. Philippine Lumberman 21(10):20,22-24.
 A paper prepared for an FAO technical conference on tropical moist forests, planned for 1975 in Brazil, but never held.
- 856 Dosso, H., Guillaumet, J. L., and Hadley, M., 1981.** The Tai project: Land use problems in a tropical rain forest. Ambio 10(2-3):120-125.
 The Tai Forest is in southwestern Ivory Coast. The general objective of the Tai Forest Project is to improve the scientific basis for management of forest ecosystems.

- 857 Douglas, J., 1988.** The role of incentives in development of private forestry plantations. In: Tang, H. T. et al., eds. Future role of forest plantations in the national economy and incentives required to encourage investments in forest plantation development. Kota Kinabalu, Sabah-World Bank For. Tech. Assist. Proj.; TROPENBOS. pp. 169-180.
Reviews the private forestry incentives which have been applied in Australia, New Zealand, and Brazil.
- 858 Dourojeanni, M. J., 1981.** Forestry and rural development in the Amazon. University of Toronto, Faculty of Forestry, Weyerhaeuser Lecture Series, Nov. 1981. 54 pp.
Discusses the role that forestry can play in rural development of the Amazon area. In English (pp. 1-26) and in Spanish (pp. 29-54).
- 859 Dourojeanni, M. J., 1984.** [Management of natural forests in tropical America: Situation and perspectives.] In: Lortie, M., ed. Forest resources management - The influence of policy and law: Speeches and papers [presented at] International Forest Congress, Quebec City, Aug. 1984. pp. 121-130.
The author discusses the reasons for past failures in natural forest management and presents strategies to be applied to reverse the situation. In Spanish, with English summary.
- 860 Dourojeanni, M. J., 1987.** [Management of natural resources in Tropical America. Situation and perspectives.] *Revista Forestal del Peru* 14(1):91-108.
In Spanish, with English summary.
- 861 Drysdale, P. J., 1988.** Rain-forest management and conservation in Fiji: A prescription for action. In: Fiji's rainforests: Our heritage and future. Proceedings 2nd National Conservation Congress, Suva, Fiji, June 9-10, 1988. Suva, National Trust for Fiji. Vol. 2, 264 pp. + appendix.
"This paper provides a...general description of the nature and extent of Fiji's native forests and plantation forests and a description of present management and conservation efforts..." (p. 1)
- 862 Dryzek, J. S. and Glenn, A. S., 1987.** The political economy of deforestation in Costa Rica. In: Hitzhusen, F. J. and Macgregor, R. D., eds. A multidisciplinary approach to renewable energy in developing countries. Columbus, OH, Publishing Horizons, Inc. pp. 203-215.
The authors analyze deforestation in Costa Rica "by making extensive use of the concept of a natural resource management regime." (p. 204)
- 863 Dupuy, B., 1992.** [Plantations for the production of timber in the dense African rainforest.] *Bois et Forêts des Tropiques* 231:5-15.
In French, with English summary.
- 864 Dykstra, D. P. and Heinrich, R., 1992.** Sustaining tropical forests through environmentally sound harvesting practices. *Unasylva* 43(169):9-15.
The authors contend that, with the use of improved harvesting practices, it is possible to simultaneously promote the sustainability of both the timber and nontimber values of tropical forests.

- 865 Dyson, W. G., 1965.** The justification of plantation forestry in the tropics. *Turrialba* 15(2):135-139.
Discusses the practical advantages of plantation forestry.
- 866 Eadkeo, K. et al., editors, 1979.** Proceedings Symposium on Management of Forest Production in Southeast Asia, Bangkok, Apr. 19-22, 1977. Bogor, Indonesia, SEAMEO Regional Center for Tropical Biology, BIOTROP Special Publication no. 4. 432 pp.
- 867 Eden, M. J. and Parry, J. T., editors, 1986.** Remote sensing and tropical land management. New York, Wiley. 365 pp.
Based on papers presented at a workshop of the Commonwealth Geographical Bureau, hosted by McGill University, Montreal, August 1983. The research-based studies demonstrate the use of remote sensing as an aid to the management of renewable resources in the tropics.
- 868 Eden, M. J., 1982.** Silvicultural and agroforestry developments in the Amazon Basin of Brazil. *Commonwealth Forestry Review* 61(3):195-202.
Silviculture and agroforestry offer alternative and more sustainable modes of land exploitation when compared with systems based on extractive logging, peasant shifting cultivation, and large-scale cattle ranching.
- 869 Ehui, S. K. and Hertel, T. W., 1989.** Computing the socially optimal forest stock for the Ivory Coast. In: Greenshields, B. and Bellamy, M., eds. Government intervention in agriculture: Cause and effect. International Association of Agricultural Economists, IAAE Occasional Paper no. 5. pp. 310-317.
"This paper uses an optimal control model to estimate the optimal steady-state forest stock for the Ivory Coast, which currently has the highest rate of deforestation in the world...." (p. 310)
- 870 Evans, J., 1986.** Plantation forestry in the tropics: Trends and prospects. *International Tree Crops Journal* 4(1):3-15.
Four aspects of plantation forestry are considered; amount of afforestation, policies and objectives for tree planting, silvicultural developments, and implementation.
- 871 Evans, J., 1992.** Plantation forestry in the tropics: Tree planting for industrial, social, environmental, and agroforestry purposes. 2d ed. Oxford, Clarendon Press. 403 pp.
Includes sections on: Land, social and economic factors, and planning in plantation development; plantation silviculture; and tree planting and plantation forestry.
- 872 Evans, J., 1991.** Sustainable use of plantation forestry in the lowland tropics. In: Proceedings of the Humid Tropical Lowlands Conference: Development strategies and natural resource management, Panama City, June 1991. Vol. VI. Bethesda, MD, Development Strategies for Fragile Lands. pp. 55-68.
Discusses "the principles governing successful plantation forestry in the lowland, humid tropics and seeks to address the issues which underpin sustainability: land capability, species choice, and management. Relevant examples are drawn from across the tropics.

873 FAO Forestry Department, 1986. FAO's tropical forestry action plan. *Unasylya* 38(152):37-64.

874 FAO Secretariat, 1970. Shifting agriculture in tropical forests. In: Food and Agriculture Organization. Report of the second session of the FAO Committee on Forest Development in the Tropics, Rome, Oct. 21-24, 1969. Rome, FAO, FO:FDT-69 Rep. pp. 12-25.

This paper "attempts to present a global view of status and trends of this form of land use. Suggestions are made for possible future action by member countries in which shifting cultivation is a problem." (p. 12)

875 FAO Secretariat, 1970. The economics of plantations in tropical savannas. In: Food and Agriculture Organization. Report of the second session of the FAO Committee on Forest Development in the Tropics, Rome, Oct. 21-24, 1969. Rome, FAO, FO:FDT-69 Rep. pp. 57-67.

876 FAO Secretariat, 1970. The role of wildlife and national parks in tropical forestry. In: Food and Agriculture Organization. Report of the second session of the FAO Committee on Forest Development in the Tropics, Rome, Oct. 21-24, 1969. Rome, FAO, FO:FDT-69 Rep. pp. 92-99.

"This paper reviews possible uses of wildlife, the present trends in the development of the wildlife resource in tropical forest lands and the way forest management affects these uses." (p. 92)

877 FAO Staff, 1990. The Tropical Forestry Action Plan: Regional priorities for Asia and the Pacific. *Unasylya* 41(162):49-63.

This article "identifies priorities for attention which are appropriate to the specific problems and potentials of forestry development in the Asia-Pacific region within the framework of the Tropical Forestry Action Plan." (p. 49)

878 FAO Staff, 1990. The tropical forestry action plan: Regional priorities for Asia and the Pacific. *Philippine Lumberman* 36(8):8-13, 20-23.
Reprinted from *Unasylya* 41(162), 1990.

879 Farnworth, E. G., Tidrick, T. H., Smathers, W. M., Jr., and Jordan, C. F., 1983. A synthesis of ecological and economic theory toward more complete valuation of tropical moist forests. *International Journal of Environmental Studies* 21(1):11-28.

"This paper presents an initial synthesis of economic theory and methodology and of ecological theory and value to evaluate market and non-market, short and long term, and private and social benefits of tropical moist forests. (p. 11)

880 Fearnside, P. M., 1989. A prescription for slowing deforestation in Amazonia. *Environment* 31(4):16-20,39-40.

"Cheap and effective measures [for slowing deforestation] include: taxing land speculation; disallowing pasture as an 'improvement' for establishing land tenure; halting fiscal incentives and other subsidies for developments involving deforestation;...and strictly controlling road building." (p. 40)

- 881 Fearnside, P. M., 1989.** Forest management in Amazonia: The need for new criteria in evaluating development options. *Forest Ecology and Management* 27(1):61-79.
- 882 Fearnside, P. M., 1979.** The development of the Amazon rainforest: Priority problems for the formulation of guidelines. *Interciencia* 4(6):338-343.
The priority areas discussed are: carrying capacity and colonization; extent of deforestation; effects of deforestation; causes of deforestation; control of deforestation; and planned uses of the forest.
- 883 Fernando, R. and Samarasinghe, S. W. R. de A., editors, 1989.** Forest conservation and the forestry master plan for Sri-Lanka: A review. 2d ed. Colombo, Wildlife and Nature Protection Society of Sri Lanka. 92 pp.
- 884 Figueroa Colon, J. C., Wadsworth, F. H., and Branham, S., editors, 1987.** Management of the forests of tropical America: Prospects and technologies. Proceedings of a conference, San Juan, Puerto Rico, Sept. 22-27, 1986. U.S. Forest Service, Institute of Tropical Forestry. 469 pp.
- 885 Finegan, B., 1992.** The management potential of neotropical secondary lowland rain forest. *Forest Ecology and Management* 47(1):295-321.
The purpose of this article "is to illustrate, by reviewing available literature, the potential of this vegetation for sustainable production management." (p. 296)
- 886 Floyd, B. N., 1982.** The rain forest and the farmer: Observations and recommendations. *GeoJournal* 6(5):433-442.
Discusses the threat to the tropical rain forests from the small-scale farmer and suggests that the integrated development of resources within areas of secondary tropical forest and savanna woodland is necessary.
- 887 Fontaine, R. G., 1986.** Management of humid tropical forests. *Unasylva* 38(154):16-21.
Discusses "the principal ecological and socio-economic constraints with which the management of moist tropical forests is confronted." (p. 17)
- 888 Fontaine, R. G., 1976.** The impact upon the environment of forestry practices in tropical moist forests. [Rome] Food and Agriculture Organization, Committee on Forest Development in the Tropics, 4th session, Rome, Nov. 15-20, 1976. FO:FDT/76/8(b). 20 pp.
Discusses the impact on the environment of silviculture and logging, of forest plantations, and agri-silvicultural techniques. Suggests how better "ecological stratification" could improve forest management.
- 889 Food and Agriculture Organization, 1989.** Guidelines for implementation of the Tropical Forestry Action Plan at country level. Rome, Food and Agriculture Organization. 26 pp. (Microfiche)

- 890 Food and Agriculture Organization, 1985.** Intensive multiple-use forest management in the tropics: Analysis of case studies from India, Africa, Latin America and the Caribbean. Rome, Food and Agriculture Organization, FAO Forestry Paper no. 55. 180 pp.
"Case studies on intensive multiple-use forest management were conducted in Kerala (India), Ghana, Honduras and Trinidad and Tobago. Each study describes the forest and the ecological, socio-economic, political and administrative factors influencing forest management in the area...."
- 891 Food and Agriculture Organization, 1984.** Intensive multiple-use forest management in Kerala. Rome, Food and Agriculture Organization, FAO Forestry Paper no. 53. 137 pp.
This report deals with the management of rainforests and teak plantations in Kerala State, India.
- 892 Food and Agriculture Organization, 1987.** The Tropical Forestry Action Plan. Rome, FAO; New York, United Nations Development Programme; Washington, DC, World Bank; Washington, DC, World Resources Institute. 32 pp.
Describes a plan to stop tropical deforestation.
- 893 Food and Agriculture Organization, 1985.** Tropical forestry action plan. Rome, Food and Agriculture Organization. 159 pp.
A plan endorsed by the FAO Committee on Forest Development in the Tropics. The plan addresses five priority areas: (1) Forestry in land use; (2) forest-based industrial development; (3) fuelwood and energy; (4) conservation of tropical forest ecosystems; and (5) institutions.
- 894 Food and Agriculture Organization, 1988.** Tropical Forestry Action Plan: Latin America and the Caribbean. Rome, Food and Agriculture Organization. 105 pp. (Microfiche)
- 895 Ford, L. B., 1987.** Incentives for private forestry investment. In: Figueroa Colon, J. C. et al., eds. Management of the forests of tropical America: Prospects and technologies. Proceedings of a conference, San Juan, Puerto Rico, Sept. 22-27, 1986. U.S. Forest Service, Institute of Tropical Forestry. pp. 415-419.
- 896 Francis, P. J. and Shea, G. M., 1991.** Management of tropical and sub-tropical pines in Queensland. In: McKinnell, F. H. et al., eds. Forest management in Australia. Chipping Norton, NSW, Surrey Beatty. pp. 203-213.
This paper "outlines current objectives and practices of exotic pine plantation management in Queensland and summarizes the major initiatives leading to the development of a diversified forest resource." (p. 203)
- 897 Fraser, A. I., 1975.** Technical and economic implications of the management systems applied in moist tropical forests in Asia. Bangkok, FAO Regional Office. 13 pp. (Microfiche)
Background paper for the Technical Conference on the Tropical Moist Forest, Brazil, 1975.

- 898 Frawley, K. J., 1991.** Queensland rainforest management: Frontier attitudes and public policy. *Journal of Rural Studies* 7(3):219-239.
The focus of this paper is on rural land-use policy in north-east Queensland, Australia and on the conflict over the management of the wet tropical rainforests of the area.
- 899 Freezailah, B. C. Y., 1989.** For a rational utilization of tropical forests. *Development and Cooperation* 14(3):4-5.
An excerpt of an address by Freezailah given at a DSE symposium in Feldafing, Bavaria on the subject of tropical rainforest mangement.
- 900 Friends of the Earth, 1988.** Financing ecological destruction: The World Bank and the International Monetary Fund. Revised edition. [London, Friends of the Earth.] 46 pp.
Following an introductory section relating to the disappearance of tropical forests, six case studies are presented of World Bank projects considered by the authors to be failures. The booklet concludes with recommendations for reforms in World Bank structure and policy.
- 901 Friends of the Earth, 1991.** Rainforest destruction and Third World debt: A call to action. London, Friends of the Earth. Leaflet. [7] pp.
Urges the World Bank and banks in the developed countries to accept the following policies: (1) Agree to cancel the debts owed by the world's very poorest countries; and (2) reduce the debts owed by the major debtor countries by at least half.
- 902 Friends of the Earth, 1990.** The European Community and tropical forests. London, Friends of the Earth, Briefing Sheet. [4] pp.
On May 29, 1990, the European Council of Development gave its final approval to a European Community response to the problem of tropical deforestation. Friends of the Earth believes that the current proposals are inadequate and should not be supported by EC member governments.
- 903 Friends of the Earth, 1990.** The Tropical Forestry Action Plan. [London] Friends of the Earth, Special Briefing. [4] pp.
The leaflet states that "the Plan is proving to be fundamentally flawed. Far from helping to conserve tropical forests, it may accelerate their destruction." (p. 1)
- 904 Friends of the Earth, 1991.** Tropical rainforests and Third World debt. London, Friends of the Earth, Briefing Sheet. [6] pp.
"This briefing aims to explain the connections between debt and tropical deforestation and sets into context the role played by commercial banks, especially Britain's four main High Street clearing banks." (p. 1)
- 905 Fries, J. and Heermans, J., 1992.** Natural forest management in semi-arid Africa: Status and research needs. *Unasyuva* 43(168):9-15.
This article reviews a number of the major issues related to natural forest management in arid and semi-arid Africa, concentrating on the countries of Burkina Faso, Mali, the Niger, Senegal, and Chad.

- 906 Fries, J., 1990.** Management of natural forests in the semi-arid areas of Africa: Present knowledge and research needs seminar in June 1990. Mimeo, various pagings.
This report is based on a seminar held in June, 1990 and sponsored by the Swedish Agency for Research Cooperation with Developing Countries (SAREC). Includes papers by U. Hellden, J. E. Lawesson, J. G. Heermans, P. C. Christensen, C. Lungren, H. J. von Maydell, and P. D. Hardcastle.
- 907 Fujisaka, S., Sajise, P. E., and Castillo, R. A. del, editors, 1986.** Man, agriculture and the tropical forest: Change and development in the Philippine uplands. Bangkok, Winrock International Institute for Agricultural Development. 363 pp.
The contributors in this book discuss the degradation and destruction of tropical rainforests in the Philippines and the interaction between man and the tropical forest ecosystem. Upland development technologies are discussed.
- 908 Gane, M., 1991.** Concepts and practice in the Tropical Forestry Action Plan. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area F, Part 2. Revue Forestiere Francaise, Hors Serie no. 8. pp. 329-340.
- 909 Gifford, D. R., 1981.** Using moist tropical forest in Brazil. In: Talbot, J. J. and Swanson, W., eds. Woodpower: New perspectives on forest usage. New York, Pergamon. pp. 109-117.
Discusses forest land use in Brazil.
- 910 Gillis, M., 1992.** Forest concessions management and revenue policies. In: Sharma, N. P., ed. Managing the world's forests: Looking for balance between conservation and development. Dubuque, IA, Kendall/Hunt. pp. 139-175.
Discusses how government forest policies affect logging activities and forest-based industrialization in tropical countries.
- 911 Gillis, M., 1988.** Indonesia: Public policies, resource management, and the tropical forest. In: Repetto, R. and Gillis, M., eds. Public policies and the misuse of forest resources. New York, Cambridge University Press. pp. 43-113.
The author assesses the contribution of Indonesian public policies to the deforestation and degradation of Indonesia's tropical forest.
- 912 Gillis, M., 1988.** Malaysia: Public policies and the tropical forest. In: Repetto, R. and Gillis, M., eds. Public policies and the misuse of forest resources. New York, Cambridge University Press. pp. 115-164.
This chapter discusses the implications of national level policies on deforestation in Malaysia, but also looks at policies of the governments of Sabah, Sarawak, and Peninsular Malaysia.
- 913 Gillis, M., 1988.** West Africa: Resource management policies and the tropical forest. In: Repetto, R. and Gillis, M., eds. Public policies and the misuse of forest resources. New York, Cambridge University Press. pp. 299-351.
This chapter examines the role of public policy in deforestation in Liberia, the Ivory Coast, Ghana, and Gabon.

- 914 Gillison, A. N., 1976.** A review of problems and techniques in restoring the tropical forest ecosystem once it has been altered. In: Report of Symposium on Ecological Effects of Increasing Human Activities on Tropical and Subtropical Forest Ecosystems, University of Papua New Guinea, Apr. 28-May 1, 1975. Canberra, Australian Govt. Publ. Service. pp. 51-72.
- 915 Godoy, R., 1992.** Some organizing principles in the valuation of tropical forests. *Forest Ecology and Management* 50(1-2):171-180.
Outlines the principles that should be used when evaluating the economic benefits of a standing tropical forest.
- 916 Golley, F. B., 1984.** Land management strategies in the humid and subhumid tropics. In: DiCasteri, F. et al., eds. *Ecology in practice. Part I: Ecosystem management.* Dublin, Tycooly; Paris, Unesco. pp. 29-56.
Identifies some of the major scientific research needs for improved management in the humid and subhumid tropics and evaluates the extent to which activities contributing to the Man and Biosphere Programme have successfully responded to these needs.
- 917 Gomez-Pompa, A. and Burley, F. W., 1991.** The management of natural tropical forests. In: Gomez-Pompa, A. et al., eds. *Rain forest regeneration and management.* Paris, Unesco; Park Ridge, NJ, Parthenon Publishing Group. *Man and the Biosphere Series.* Vol. 6, pp. 3-18.
- 918 Gomez-Pompa, A., Whitmore, T. C., and Hadley, M., editors, 1991.** *Rain forest regeneration and management.* Paris, Unesco; Park Ridge, NJ, Parthenon Publishing Group. *Man and the Biosphere Series.* Vol. 6, 457 pp.
Includes papers dealing with land-use planning and resource management issues in the forested lands of the humid and subhumid tropics. The focus is on natural rain forest ecosystems, not on plantations.
- 919 Gonggryp, J. W., 1948.** Outline of a general forest policy for the tropics. *Unasyuva* 2(1):3-7.
- 920 Goor, C. P. van, 1987.** Suitability of tropical forests for relevant use. In: Beusekom, C. F. van et al., ed. *Wise utilization of tropical rain forest lands.* Ede, Netherlands, Tropenbos Programme, Tropenbos Scientific Series no. 1. pp. 81-93.
This paper deals with an approach for planning sound utilization of tropical forests and tropical forest land based on suitability classification of tropical forest land for relevant use, relating to the framework for land evaluation developed by FAO in 1976. (p. 81)
- 921 Government of the Netherlands, 1991.** Netherlands policy on tropical rain forests: Summary. *BOS Nieuwsletter* 10(2):17-27.

- 922 Graaf, N. R. de and Poels, R. L. H., 1990.** The Celos Management System: A polycyclic method for sustained timber production in South American rain forest. In: Anderson, A. B., ed. *Alternatives to deforestation: Steps toward sustainable use of the Amazon rain forest.* New York, Columbia University Press. pp. 116-127.
The Celos Management System was developed for timber production in natural high forest, based on research in Suriname.
- 923 Graaf, N. R. de, 1986.** A silvicultural system for natural regeneration of tropical rain forest in Suriname. Wageningen, Netherlands, Agricultural University. 250 pp.
One of a series of reports on the ecology and management of tropical rain forests in Suriname. Discusses the need for management of tropical lowland forests. Describes the CELOS system, the silvicultural system adopted by the Centre for Agricultural Research in Suriname.
- 924 Graaf, N. R. de, 1986.** Natural regeneration of tropical rain forest in Suriname as a land-use option. *Netherlands Journal of Agricultural Science* 35(1):71-74.
Discusses the need for management of tropical rain forest in Suriname and the possibilities of a polycyclic system in natural forest.
- 925 Graaf, N. R. de, 1992.** Secondary forest: Should it be an option in forest management in Suriname? In: *Proceedings of the Humid Tropical Lowlands Conference: Development Strategies and Natural Resource Management*, Panama City, 1991. Vol. V. Bethesda, MD, Development Strategies for Fragile Lands. pp. 1-14.
- 926 Graaf, N. R. de, 1982.** Sustained timber production in the tropical rainforest of Suriname. In: *Proceedings of the Joint Workshop on Management of Low Fertility Acid Soils of the American Humid Tropics*, Paramaribo, Suriname, Nov. 23-26, 1981. San Jose, Costa Rica, Inter-American Institute for Cooperation on Agriculture, pp. 175-189.
Discusses CELOS, a silvicultural system based on natural regeneration.
- 927 Grainger, A., 1986.** Deforestation and progress in afforestation in Africa. *International Tree Crops Journal* 4(1):33-48.
Discusses the rate of deforestation in Africa, the impact of deforestation, and the need for afforestation, in particular, making use of agroforestry and social forestry techniques.
- 928 Grainger, A., 1988.** Estimating areas of degraded tropical lands requiring replenishment of forest cover. *International Tree Crops Journal* 5(1-2):31-61.
Estimates are given of the area of degraded land in each of four vegetation zones in the tropics, with potential for forest replenishment. These are compared with target areas of additional plantations indicated by previous studies to prevent future fuelwood or industrial wood deficits. (p. 32)

- 929 Grainger, A., 1988.** Future supplies of high-grade tropical hardwoods from intensive plantations. *Journal of World Forest Resource Management* 3(1):15-29.
"Projections were made of future production of high-grade tropical hardwoods from intensive forest plantations for 30 countries in the humid tropics for the period 1981 to 2026." These projections indicate that, in the foreseeable future, "these plantations will supplement, but not replace, removals from natural tropical forests." (p. 15)
- 930 Grainger, A., 1984.** Increasing the effectiveness of afforestation projects in the tropics involving non-governmental organizations. *International Tree Crops Journal* 3(1):33-47.
- 931 Grainger, A., 1987.** The future environment for forest management in Latin America. In: Figueroa Colon, J. C. et al., eds. *Management of the forests of tropical America: Prospects and technologies. Proceedings of a conference, San Juan, Puerto Rico, Sept. 22-27, 1986.* U.S. Forest Service, Institute of Tropical Forestry. pp. 1-9.
- 932 Gray, J. W., 1983.** Forest revenue systems in developing countries; their role in income generation and forest management strategies. Rome, Food and Agriculture Organization, *FAO Forestry Paper no. 43.* 261 pp.
The purpose of this paper is "to provide guidance to tropical countries in reviewing or up-dating their system of forest charges." (p. xviii)
- 933 Gregersen, H. M. and Lundgren, A., 1988.** The role of incentives in U.S. forestry development: Implications for other countries. In: Tang, H. T. et al., eds. *Future role of forest plantations in the national economy and incentives required to encourage investments in forest plantation development.* Kota Kinabalu, Sabah-World Bank For. Tech. Assist. Proj.; TROPENBOS. pp. 189-197.
Provides an overview of the use of incentives in the U.S. forest sector and relates this experience to that in other countries at earlier stages in forest sector development.
- 934 Grison, F., 1984.** Agrisylviculture from the standpoint of the management and conservation of forest resources. In: Chadwick, A. C. and Sutton, S. L., eds. *Tropical rain-forest: The Leeds Symposium.* Leeds, U.K., Leeds Philosophical and Literary Society. pp. 273-277.
Discusses the contribution agroforestry can make towards the management of the tropical forest.
- 935 Groot, D. de, Schotveld, B., Pater, C. de, and Dijk, K. van, 1991.** International tropical forestry policies: Present status and new initiatives. *BOS Nieuwsletter* 10(2):28-41.
Discusses the Tropical Forestry Action Plan, the activities of the International Tropical Timber Organization, and others.
- 936 Groulez, J., 1976.** Conversion planting in tropical moist forests. [Rome] Food and Agriculture Organization, Committee on Forest Development in the Tropics, 4th session, Rome, Nov. 15-20, 1976. FO:FDT/76/7(b). 22 pp.

- 937 Grut, M., 1989.** Economics of managing the African rainforest. Paper prepared for the Thirteenth Commonwealth Forestry Conference, Sept. 1989. Mimeo, 14 pp.
Following a general discussion of the economics of rainforest management, the author discusses two specific projects which had been submitted for World Bank financing: 1) Ghana Forest Resource Management Project; and 2) Guinea Forestry and Fisheries Management Project.
- 938 Grut, M., Gray, J. A., and Egli, N., 1991.** Forest pricing and concession policies: Managing the high forests of West and Central Africa. Washington, DC, World Bank, World Bank Technical Paper no. 143. 77 pp.
"The theme of this paper is that proper pricing supported by new concession policies can encourage and support sustainable management and conservation of the forests of West and Central Africa, reflect the values of the forest resources, and finance forest management." (p. v)
- 939 Grut, M., 1990.** Revenue and concession policy for the timber forests of West Africa. In: ITTO Seminar on Sustainable Development of Tropical Forests, Denpasar, Bali, May 1990. Permanent Committee on Reforestation and Forest Management, 7th Session, Yokohama, Nov. 1990. PCF(VII)/4. pp. 53-66.
Describes "the origin, objectives, present status and preliminary findings of the World Bank study of forest revenue systems in West Africa."
- 940 Guess, G. M., 1991.** Poverty and profit in Central American forest policies. Public Administration and Development 11(6):573-589.
"Absence of public regulation of harvesting and competing subsidies to agriculture keep forestry stumpage prices artificially low. This encourages destruction of the forest resource, which damages both the environment and the potential to reduce poverty." (p. 573)
- 941 Guibourg, C. and Robbins, M., 1991.** European Community, development and tropical forests. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area F., Part 2. Revue Forestiere Francaise, Hors Serie no. 8. pp. 294-299.
Outlines the involvement of the European Community in providing development aid to countries with tropical forests.
- 942 Hadley, M., editor, 1988.** Rain forest regeneration and management. Report of a workshop, Guri, Venezuela, Nov. 24-28, 1986. Biology International, Special Issue 18. 68 pp.
"The workshop was concerned with the interface between research and management and was aimed at exploring the implications to management of present scientific knowledge on rain forest regeneration." (p. i.) Includes information on trends in tropical land use; costs, benefits, and economics relating to moist forest management; and the social context of moist forest management.
- 943 Hafner, J. A. and Apichatvullop, Y., 1990.** Farming the forest: Managing people and trees in reserved forests in Thailand. Geoforum 21(3):331-346.
Discusses two forest management programs initiated by the government in Thailand in 1975.

- 944 Hallsworth, E. G., editor, 1982.** Socio-economic effects and constraints in tropical forest management. New York, Wiley. 233 pp.
Includes papers presented at a workshop held in Dehra Dun, India in 1981.
- 945 Hamilton, L. S., 1990.** Restoration of degraded tropical forests. In: Berger, J. J., ed. Environmental restoration: Science and strategies for restoring the earth. Washington, DC, Island Press. pp. 113-122.
- 946 Hamilton, L. S., 1991.** Tropical forests: Identifying and clarifying issues. *Unasylva* 42(166):19-27.
This article discusses eight forestry issues that are currently making headlines. The author contends that several of them are based on "myth, misunderstanding, misinformation or misinterpretation."
- 947 Hansen, D. O. and Erbaugh, J. M., 1987.** Sociological factors in natural resources management in a tropical watershed. In: Hitzhusen, F. J. and Macgregor, R. D., eds. A multidisciplinary approach to renewable energy in developing countries. Columbus, OH, Publishing Horizons, Inc. pp. 217-236.
Discusses the Ocoa Natural Resource Management Project in the Dominican Republic.
- 948 Hartshorn, G. S., 1983.** Ecological implications of tropical plantation forestry. In: Sedjo, R. A. The comparative economics of plantation forestry: A global assessment. Washington, DC, Resources for the Future. pp. 84-93.
The author concludes that plantation forestry, including agroforestry, must play an expanding role in the production of forest products in most tropical countries.
- 949 Hartshorn, G. S., 1989.** Sustained yield management of natural forests: The Palcazu production forest. In: Browder, J. O., ed. Fragile lands of Latin America: Strategies for sustainable development. Boulder, Westview Press. pp. 130-138.
Discusses a production forestry project in Peru.
- 950 Harvard Institute for International Development, 1988.** The case for multiple-use management of tropical hardwood forests: Executive summary. Yokohama, International Tropical Timber Organization, Pre-Project Report PPR 7/88. 15 pp.
Two objectives of the study were: (1) To identify and evaluate the nontimber products and services from tropical forests; (2) to determine the extent to which multiple-use management of these resources would help ensure the sustainability of tropical hardwood timber supplies. The focus is on the 18 tropical timber producing members of ITTO.
- 951 Haynes, C. D., 1991.** Management of tropical open forest in Kakadu National Park, Northern Territory. In: McKinnell, F. H. et al., eds. Forest management in Australia. Chipping Norton, NSW, Surrey Beatty. pp. 306-313.
- 952 Headley, M. V. and Thompson, D. A., 1986.** Forest management in Jamaica. In: Thompson, D. A. et al., eds. Forests of Jamaica: Papers from the Caribbean Regional Seminar on Forests of Jamaica, Kingston, 1983. Kingston, Jamaican Society of Scientists and Technologists. pp. 91-96.

- 953 Hecht, S. B. and Schwartzman, S., 1988.** The good, the bad and the ugly: Amazonian extraction, colonist agriculture; and livestock in comparative perspective. Draft. 24 pp.
The authors present a comparative analysis of three competing land uses in the Amazon Basin. The social and economic context of deforestation is discussed.
- 954 Hecht, S. B., 1982.** Agroforestry in the Amazon Basin: Practice, theory and limits of a promising land use. In: Hecht, S. B., ed. Amazonia: Agriculture and land use research. Cali, Colombia, Centro Internacional de Agricultura Tropical. pp. 331-371.
- 955 Hecht, S. B., 1984.** Cattle ranching in Amazonia: Political and ecological considerations. In: Schmink, M. and Wood, C. H., eds. Frontier expansion in Amazonia. Gainesville, University of Florida Press. pp. 366-398.
The author discusses "the political economy of Amazonian ranching development and how the processes of land degradation and capital accumulation are linked in the Amazonian context." (p. 367)
- 956 Hernandez Rodriguez, F. H. and Ramos Rodriguez, R., 1991.** [Forest planning for the present and future organization and development of the forest heritage of the future of the Republic of Cuba.] In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area D, Part 1. Revue Forestiere Francaise, Hors Serie no. 4. pp. 348-352.
In Spanish.
- 957 Hirsch, P., 1990.** Forests, forest reserve, and forest land in Thailand. Geographical Journal 156(2):166-174.
"This paper proposes a framework for examining, locally, the problem of tropical deforestation and subsequent use of forest land." (p. 166)
- 958 Howard, W. J., 1990.** Case study: Ghana Forest Resource Management Project. In: Tarlton, G. L., ed. Forestry: A multiple-use enterprise. Proceedings of the thirteenth Commonwealth Forestry Conference, Rotorua, Sept. 1989. Rotorua, New Zealand, Forest Research Institute. pp. 288-290.
Discusses the history of forest management in Ghana's tropical moist forest.
- 959 Hueting, R., 1991.** The use of the discount rate in a cost-benefit analysis for different uses of a humid tropical forest area. Ecological Economics 3(1):43-57.
This article "outlines first the concept of environmental functions as linkage between ecology and economy; and second the question of the use of discount rates for future environmental benefits and losses." (p. 44)
- 960 Hutchinson, I. D., 1987.** The management of humid tropical forest to produce wood. In: Figueroa Colon, J. C. et al., eds. Management of the forests of tropical America: Prospects and technologies. Proceedings of a conference, San Juan, Puerto Rico, Sept. 22-27, 1986. U.S. Forest Service, Institute of Tropical Forestry. pp. 121-155.

961 Hyman, E. L., 1983. Forestry administration and policies in the Philippines. *Environmental Management* 7(6):511-524.

"This article begins by summarizing the importance of the forestry sector in the Philippine economy. It provides an overview of the multiplicity of Philippine government institutions involved in forestry in 1982." Then it discusses Philippine forestry laws and concludes by examining 15 critical forest policy issues.

962 Institute of Foresters of Australia, 1991. Rainforest policy statement. In: *The rainforest legacy: Australian national rainforests study. Vol. 3: Rainforest history, dynamics and management.* Canberra, Australian Government Publishing Service. pp. 241-243.

963 International Union for Conservation of Nature, 1975. Proceedings of a regional meeting on the use of ecological guidelines for development in the tropical forest areas of South East Asia, Bandung, Indonesia, May 29-June 1, 1974. Morges, Switzerland, International Union for Conservation of Nature and Natural Resources, IUCN Publications New Series no. 32. 185 pp.

The papers included are grouped under four headings: (1) Ecological input to land use policies and planning; (2) the forest as a resource; (3) transformation of forests to forestry plantations and agriculture; and (4) infrastructure, engineering works and industry.

964 Jabil, D. M. and Mahmud, M. D. bin H., 1986. National policies for investment in tropical forestry with special reference to Malaysia. In: *Proceedings of the Twelfth Commonwealth Forestry Conference, 1985.* Victoria, B.C., Canadian Forestry Service, Pacific Forestry Centre. pp. 288-297.

965 Jabil, D. M., 1983. Problems and prospects in tropical rainforest management for sustained yield. *Malaysian Forester* 46(4):398-408.

Keynote address delivered at the Workshop on Tropical Rainforest Management, Gympie, Queensland, July 11-August 12, 1983. The author advocates the establishment of an international fund for forestry development to insure that adequate investments are deployed appropriately and effectively.

966 Johns, A. D., 1985. Selective logging and wildlife conservation in tropical rain-forest: Problems and recommendations. *Biological Conservation* 31(4):355-375.

This paper considers data from a study of the effects of selective logging on a rainforest animal community in West Malaysia. Results show that logged forests are able to support many animals, including some that cannot survive in small isolated primary forest reserves. (p. 355)

967 Johnson, B., 1983. Rain forests and foreign policies: A look at Britain's impact. In: Sutton, S. L. et al., eds. *Tropical rain forest: Ecology and management.* Oxford, Blackwell. British Ecological Society Publication no. 2. pp. 477-485.

"An outline is given for a strategy of dialogue within Britain. This would focus upon developing a new policy aimed to: promote sustained yield and good silviculture; increase capacity to provide assistance; seek to market expertise; help increase financial benefit from the remaining TRF; and to promote international discussion to increase comprehension of the wider values of TRF." (p. 477)

- 968 Johnson, N., Cabarle, B., and Mead, D., 1991.** Development assistance, natural forest management, and the future of tropical forests. In: *Proceedings of the Humid Tropical Lowlands Conference: Development strategies and natural resource management*, Panama City, June 1991. Vol. IV. Bethesda, MD, Development Strategies for Fragile Lands. pp. 99-101.
Abstract only.
- 969 Jonkers, W. B. J. and Schmidt, P., 1983.** Ecology and timber production in tropical rain forest in Suriname. *Interciencia* 9(5):290-297.
Discusses the ecological and economic aspects of pine plantations established in Suriname.
- 970 Jonkers, W. B. J. and Hendrison, J., 1987.** Prospects for sustained yield management of tropical rainforest in Surinam. In: *Figueroa Colon, J. C. et al., eds. Management of the forests of tropical America: Prospects and technologies. Proceedings of a conference*, San Juan, Puerto Rico, Sept. 22-27, 1986. U.S. Forest Service, Institute of Tropical Forestry. pp. 157-173.
- 971 Jordan, C. F. and Farnworth, E. G., 1982.** Natural vs. plantation forests: A case study of land reclamation strategies for the humid tropics. *Environmental Management* 6(6):485-492.
"The purpose of this report is to suggest that in some cases natural regeneration can be an alternative to plantation forestry." (p. 485.) The areas studied were in the moist forest regions of Puerto Rico.
- 972 Just, T. E., 1991.** Management of tropical rainforests in North Queensland. In: *McKinnell, F. H. et al., eds. Forest management in Australia. Chipping Norton, NSW, Surrey Beatty.* pp. 228-239.
- 973 Kang, B. T. and VanDenBeldt, R., 1990.** Agroforestry systems for sustained crop production in the tropics with special reference to West Africa. In: *Moore, E., ed. Agroforestry land-use systems. Waimanalo, Hawaii, Nitrogen Fixing Tree Association, Special Publication 90-02.* pp. 13-33.
- 974 Kanowski, P. J. and Savill, P. S., 1992.** Plantation forestry. In: *Sharma, N. P., ed. Managing the world's forests: Looking for balance between conservation and development.* Dubuque, IA, Kendall/Hunt. pp. 375-401.
Discusses the principles of successful plantation management, including the policy environment, land use and management planning, forest management, and a review of environmental impacts. Co-authors are: P. G. Adlard, J. Burley, J. Evans, J. R. Palmer, and P. J. Wood.
- 975 Kartawinata, K., Jessup, T. C., and Vayda, A. P., 1989.** Exploitation in Southeast Asia. In: *Lieth, H. and Werger, M. J. A., eds. Tropical rain forest ecosystems: Biogeographical and ecological studies.* New York, Elsevier, *Ecosystems of the World* 14B. pp. 591-610.
Discusses logging, the collection of minor forest products, shifting cultivation and deforestation.

- 976 Kartawinata, K., 1981.** The classification and utilization of forests in Indonesia. In: Carpenter, R. A., ed. *Assessing tropical forest lands: Their suitability for sustainable uses.* Dublin, Tycooly International Publishing Ltd. pp. 163-174.
- 977 Keipi, K., 1991.** Reducing deforestation in Latin America: The role of the Inter-American Development Bank. In: Tulchin, J. S., ed. *Economic development and environmental protection in Latin America.* Boulder, Lynne Rienner Publishers. pp. 39-44.
Discusses some of the reasons for deforestation (population pressure and poverty, insecure land tenure and speculation) and the efforts of the IDB to help solve these problems.
- 978 Keipi, K., 1987.** Tropical forest management in Latin America: Role of the Inter-American Development Bank. In: Figueroa Colon, J. C. et al., eds. *Management of the forests of tropical America: Prospects and technologies.* Proceedings of a conference, San Juan, Puerto Rico, Sept. 22-27, 1986. U.S. Forest Service, Institute of Tropical Forestry. pp. 49-59.
- 979 Kengen, S., 1987.** The future trends of forestry sector and forest policy in Brazil. In: *Proceedings of the Symposium on the Co-operation of Forestry Between Finland and Brazil, Aug. 1987.* Metsantutkimuslaitoksen Tiedonantoja 273:65-100.
Discusses the forestry sector and forest policy in Brazil, with emphasis on the fiscal incentives scheme.
- 980 Kerr, W. B., 1990.** The Commonwealth and the Tropical Forestry Action Plan. *Commonwealth Forestry Review* 69(3):273-288.
Discusses the role of the Commonwealth agencies in the TFAP process.
- 981 Kiernan, M. et al., 1992.** Pilot natural forest management initiatives in Latin America: Lessons and opportunities. *Unasylva* 43(169):16-23.
This article presents a synthesis of the major points raised at a World Wildlife Fund Workshop held in Costa Rica in 1990. Field representatives from 14 pilot projects representing some of the most promising tropical forest management initiatives in Latin America took part in the workshop. Co-authors are: M. Perl, D. McCaffrey, R. J. Buschbacher, and G. Batmanian.
- 982 Kiernan, M., Buschbacher, R., Perl, M., and Batmanian, G., 1991.** Pilot natural forest management initiatives in Latin America: Lessons and opportunities. In: *10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area D, Part 1.* *Revue Forestiere Francaise, Hors Serie no. 4.* pp. 340-347.
- 983 King, K. F. S., 1966.** Land capacity classification and land-use planning with special reference to tropical regions. In: *Proceedings of the Sixth World Forestry Congress, Madrid, 1966.* Vol. 3, pp. 3113-3121.
- 984 King, K. F. S., 1990.** The failure of tropical forestry management. In: *ITTO Seminar on Sustainable Development of Tropical Forests, Denpasar, Bali, May 1990.* Permanent Committee on Reforestation and Forest Management, 7th Session, Yokohama, Nov. 1990. PCF(VII)/4. pp. 5-14.

- 985 Kio, P. R. O. and Ekwebelan, S. A., 1987.** Plantations versus natural forests for meeting Nigeria's wood needs. In: Mergen, F. and Vincent, J. R., eds. *Natural management of tropical moist forests: Silvicultural and management prospects of sustained utilization.* New Haven, CT, Yale University, School of Forestry and Environmental Studies. pp. 149-176.
- "It is emphasized that for proper forest management in Nigeria, there is an obvious need for balancing the ecological and economic implications of natural and artificial regeneration methods and for developing intensive research on forest resource conservation and utilization." (p. 150)
- 986 Kio, P. R. O., 1983.** Management potentials of the tropical high forest with special reference to Nigeria. In: Sutton, S. L. et al., eds. *Tropical rain forest: Ecology and management.* Oxford, Blackwell. British Ecological Society Special Publication no. 2. pp. 445-455.
- 987 Kio, P. R. O., 1979.** Management strategies in the natural tropical high forest. *Forest Ecology and Management* 2(3):207-220.
- The author suggests a re-evaluation of the policy favoring the indiscriminate establishment of plantations of inferior species to replace rich tropical high forests.
- 988 Kio, P. R. O., 1976.** What future for natural regeneration of tropical high forest? An appraisal with examples from Nigeria and Uganda. *Commonwealth Forestry Review* 55(4):309-318.
- This paper examines the comparative costs of the artificial and natural systems of regenerating high forest.
- 989 Kohler, V., editor, 1990.** Integration of management of tropical forests into regional development: Report on a seminar held in Kuala Lumpur, Malaysia, July 2-7, 1990. Feldafing, German Foundation for International Development (DSE), Food and Agriculture Development Centre. 147 pp.
- Addressed the legal, political, organizational and technical dimensions of the problems involved in integrating forestry into regional development.
- 990 Kongsangchai, J., 1984.** Management of mangrove forests. In: Velasco, A. B. et al., eds. *Proceedings of the First ASEAN Forestry Congress, Manila, Oct. 10-15, 1983.* Quezon City, Philippines, Bureau of Forest Development. Vol. 2, pp. 249-256.
- 991 Korsgaard, S., 1985.** Guidelines for sustained yield management of mixed dipterocarp forests of South East Asia. Bangkok, Food and Agriculture Organization, Special Study on Forest Management, Afforestation and Utilization of Forest Resources in the Developing Regions, GCP/RAS/106/JPN, Field Document no. 8. 78 pp.
- 992 Koyo, J. P., 1991.** [Elements for a new strategy in tropical forest resources management in Subsaharan Africa.] In: 10th World Forestry Congress, Paris, 1991. *Revue Forestiere Francaise, Hors Serie no. 7.* pp. 57-62.
- In French.

- 993 Kumar, R., 1985.** Supply responses in tropical forestry: A Malaysian case study. *Resources Policy* 11(2):99-109.
This article "assesses the institutional and management structure of Malaysian forestry which, together with the social and political barriers at work, prevent an orderly programme of harvesting and reforestation." (p. 99)
- 994 Kwapena, N., 1985.** Tropical rain forests and plantation forestry in Papua New Guinea. In: Davidson, J. et al., eds. *The future of tropical rain forests in South East Asia*. Gland, Switzerland, IUCN Commission on Ecology Papers no. 10. pp. 91-100.
Describes the tropical rain forest vegetation of Papua New Guinea; gives a brief history of the timber industry; and explains the need for plantation forestry.
- 995 Ladrach, W. E., 1987.** Development of plantation forestry in the humid tropics for sustained use. In: Lugo, A. E. et al., eds. *Ecological development in the humid tropics: Guidelines for planners*. Morrilton, AR, Winrock International Institute for Agricultural Development. pp. 237-269.
- 996 Lahiri, K. L., 1968.** Management in tropics: Natural high forests - India. New Delhi, Inspector General of Forests. 15 pp.
Prepared for the ninth Commonwealth Forestry Conference, 1968. Discusses management of wet evergreen, moist deciduous, dry deciduous, littoral and swamp forests.
- 997 Lal, R., 1991.** Myths and scientific realities of agroforestry as a strategy for sustainable management for soils in the tropics. *Advances in Soil Science* 15:91-137.
- 998 Lamb, D., 1977.** Conservation and management of tropical rain forests: A dilemma of development in Papua New Guinea. *Environmental Conservation* 4(2):121-129.
Discusses the Gogol Timber Project in Madang Province.
- 999 Lamb, F. B., 1987.** The role of anthropology in tropical forest ecosystem resource management and development. *Journal of Developing Areas* 21(4):429-458.
Focuses on the tropical forest of the Amazon Basin.
- 1000 Lamprecht, H., 1989.** Silviculture in the tropics: Tropical forest ecosystems and their tree species: Possibilities and methods for their long-term utilization. Eschborn, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH. 296 pp.
- 1001 Lawton, R. M., 1981.** Dynamics of forest ecosystems in relation to their utilization; subtropical and tropical regions. In: *Proceedings of the Workshop on Land Evaluation for Forestry, International Workshop of the IUFRO/ISSS, Wageningen, Netherlands, Nov. 10-14, 1980*. Wageningen, International Institute for Land Reclamation and Improvement. pp. 31-47.
Includes a discussion of the social, economic and political aspects that affect forest utilization.

- 1002 Lawton, R. M., 1989.** The exploitation of the African rain forest and man's impact. In: Lieth, H. and Werger, M. J. A., eds. *Tropical rain forest ecosystems: Biogeographical and ecological studies*. New York, Elsevier, *Ecosystems of the World 14B*. pp. 581-589.
Discusses the exploitation of the Guineo-Congolian rain forest for timber and for minor forest products. Includes a section on forest management.
- 1003 Lawton, R. M., 1978.** The management and regeneration of some Nigerian high forest ecosystems. In: Unesco et al. *Tropical forest ecosystems: A state-of-knowledge report*. Paris, Unesco. *Natural Resources Research no. 14*. pp. 580-588.
- 1004 Lechoncito, J. L., 1984.** Status and implications of managing the wildlife resources and reserves in the Philippines. In: Velasco, A. B. et al., eds. *Proceedings of the First ASEAN Forestry Congress, Manila, Oct. 10-15, 1983*. Quezon City, Philippines, Bureau of Forest Development. Vol. 3, pp. 892-899.
The wildlife resource of the Philippines is in a critical condition due in part to loss of forest cover brought about by illegal logging, shifting cultivation, etc.
- 1005 Lee, P. C., 1981.** Forest land classification in Malaysia. In: Carpenter, R. A., ed. *Assessing tropical forest lands: Their suitability for sustainable uses*. Dublin, Tycooly International Publishing Ltd. pp. 186-196.
- 1006 Leslie, A., 1977.** Where contradictory theory and practice co-exist. *Unasylya* 29(115):2-17.
Discusses the management of moist tropical forests.
- 1007 Leslie, A. J., 1987.** A second look at the economics of natural management systems in tropical mixed forests. *Unasylya* 39(155):46-58.
- 1008 Leslie, A. J., 1976.** Economic implications of the management systems applied to the tropical moist forests. [Rome] Food and Agriculture Organization, Committee on Forest Development in the Tropics, 4th session, Rome, Nov. 15-20, 1976. FO/FDT/76/7c. add.1. 31 pp.
- 1009 Leslie, A. J., 1989.** Review of forest management systems of tropical Asia: Case-studies of natural forest management for timber production in India, Malaysia and the Philippines. Rome, Food and Agriculture Organization, FAO Forestry Paper no. 89. 228 pp.
- 1010 Leslie, A. J., 1987.** The economic feasibility of natural management of tropical forests. In: Mergen, R. and Vincent, J. R., eds. *Natural management of tropical moist forests: Silvicultural and management prospects of sustained utilization*. New Haven, CT, Yale University, School of Forestry and Environmental Studies. pp. 177-198.
- 1011 Liew, T. C. et al., editors, 1985.** *Proceedings [of the] Seminar on Forest Plantation Development in Malaysia, Kota Kinabalu, Sabah, July, 1984*. Sandakan, Forest Department Sabah. 131 pp.
Includes papers on: The role of forest plantations in the long term national timber production strategies; forest plantation development and their economic considerations; and, private investments in plantation forestry.

- 1012 Ljungman, L. L., 1988.** The Tropical Forestry Action Plan. In: McDermott, M. J., ed. *The future of the tropical rain forest: Proceedings of an international conference, Oxford, June 27-28, 1988.* Oxford, Oxford Forestry Institute. pp. 20-22.
- 1013 Lohmann, L. and Colchester, M., 1990.** Paved with good intentions: TFAP's road to oblivion. *Ecologist* 20(3):91-98.
Criticism of the Tropical Forestry Action Plan.
- 1014 Lovejoy, T. E., 1985.** Rehabilitation of degraded tropical forest lands. Gland, Switzerland, International Union for Conservation of Nature and Natural Resources, Commission on Ecology Occasional Paper no. 5. 8 pp.
"The economic and social well-being is far better served by focusing on rehabilitation of degraded lands than by additional incursions into dwindling stocks of natural forest." (p. 1.) Reprinted from the *Environmentalist*, vol. 5.
- 1015 Lugo, A. E. et al., editors, 1987.** People and the tropical forest: A research report from the United States Man and the Biosphere Program. Washington, DC, Government Printing Office. 75 pp.
This report summarizes the results of 20 MAB projects dealing with tropical forest management. Co-editors are: J. J. Ewel, S. B. Hecht, P. G. Murphy, C. Padoch, M. C. Schmink, and D. Stone.
- 1016 Lugo, A. E., 1987.** Tropical forest management with emphasis on wood production. In: Lugo, A. E. et al., eds. *Ecological development in the humid tropics: Guidelines for planners.* Morrilton, AR, Winrock International Institute for Agricultural Development. pp. 169-189.
- 1017 Lugo, A. E., 1992.** Tropical forest uses. In: Downing, T. E., et al., eds. *Development or destruction: The conversion of tropical forest to pasture in Latin America.* Boulder, Westview Press. pp. 117-132.
The author's objective is "to present some facts on the status of tropical forests in Latin America, list the factors and conditions that affect the survival and quality of forest lands, present models of land-use and forest management, and point out action plans to implement the wise use of forest lands." (p. 118)
- 1018 Lund, H. G., Caballero-Deloya, M., and Villarreal-Canton, R., editors, 1987.** Land and resource evaluation for national planning in the tropics: [Proceedings] international conference and workshop, Chetumal, Mexico, Jan. 1987. U.S. Forest Service, General Technical Report WO-39. 524 pp.
Topics covered include: Determining information needs; resource inventory; analysis and plan development; and, implementation, monitoring, and maintenance.
- 1019 Lundgren, B. and Lundgren, L., 1982.** Socio-economic effects and constraints in forest management: Tanzania. In: Hallsworth, E. G., ed. *Socio-economic effects and constraints in tropical forest management.* New York, Wiley. pp. 43-52.

- 1020 Lundgren, B., 1985.** Global deforestation, its causes and suggested remedies. *Agroforestry Systems* 3(2):91-95.
 "One approach to land use which holds a great, and largely untapped potential to address some of the main problems leading to deforestation, i.e., declining soil fertility, erosion and fuelwood shortage, is agroforestry." (p. 94)
- 1021 Lundgren, B., 1981.** Land qualities and growth in the tropics. In: *Proceedings of the Workshop on Land Evaluation for Forestry, International Workshop of the IUFRO/ISSS, Wageningen, Netherlands, Nov. 10-14, 1980.* Wageningen, International Institute for Land Reclamation and Improvement. pp. 237-252.
 Highlights important interactions between land qualities, growth and management in the tropics.
- 1022 Lundgren, B., 1980.** Plantation forestry in tropical countries: Physical and biological potentials and risks. Uppsala, Swedish University of Agricultural Sciences, International Rural Development Centre, Rural Development Studies no. 8. 134 pp. + appendix.
 Discusses plantation forestry management in tropical countries.
- 1023 Luning, H. A., 1987.** The need for tropical rain forests and their products. In: Beusekom, C. F. van et al., eds. *Wise utilization of tropical rain forest lands.* Ede, Netherlands, Tropenbos Programme, Tropenbos Scientific Series no. 1. pp. 15-29.
 Includes a table which presents "Some socio-economic indicators regarding forest and society for countries with a sizable area under tropical rain forest."
- 1024 Lusigi, W. J., 1982.** Socio-economic effects and constraints in forest management in Kenya. In: Hallsworth, E. G., ed. *Socio-economic effects and constraints in tropical forest management.* New York, Wiley. pp. 123-130.
- 1025 Lutz, E. and Daly, H., 1991.** Incentives, regulations, and sustainable land use in Costa Rica. *Environmental and Resource Economics* 1(2):179-194.
 Preliminary information indicates that, at present, most of the deforestation is taking place by logging and other commercial interests such as banana companies and large cattle ranchers. Squatting by smallholders appears to be an "insignificant" cause of the deforestation. The paper discusses incentives and regulations which influence land use, and makes proposals for reforms.
- 1026 Lynch, O. J., Jr. and Talbott, K., 1988.** Legal responses to the Philippine deforestation crises. *New York University Journal of International Law and Politics* 20(3):679-713.
 "The political will to address the Philippine deforestation problem in an effective and equitable manner is not yet strong, but it is growing." (p. 680)
- 1027 MacDicken, K. G., 1990.** Agroforestry management in the humid tropics. In: MacDicken, K. G. and Vergara, N. T., eds. *Agroforestry: Classification and management.* New York, Wiley. pp. 98-149.
- 1028 MacDonald, L. H., editor, 1982.** *Agro-forestry in the African humid tropics: Proceedings of a workshop, Ibadan, Nigeria, Apr. 27-May 1, 1981.* Tokyo, United Nations University. 163 pp.

- 1029 Mahar, D. J., 1989.** Government policies and deforestation in Brazil's Amazon region. Washington, DC, World Bank. 56 pp.
 "The emphasis is on policies which encourage economic activities that are detrimental to the environment.... The principal message is that attempts to reduce or stop tropical deforestation by fiat only... are not likely to succeed if economic incentives encourage people to do the opposite." (p. 3)
- 1030 Mahar, D. J., 1990.** Policies affecting land use in the Brazilian Amazon; Impact on the rainforest. *Land Use Policy* 7:59-69.
 "The purpose of this paper is to show how various government policies have affected the extent and rate of deforestation in the Brazilian Amazon. The principal message to be conveyed is that policy reform must be an integral part of any programme directed to slowing down deforestation." (p. 59)
- 1031 Maitre, H. F., 1987.** Natural forest management in Cote d'Ivoire. *Unasyva* 39(157/158):53-60.
 Discusses forest management in dense natural rain forest.
- 1032 Marshall, G., 1991.** FAO and tropical forestry. *Ecologist* 21(2):66-72.
 Discusses FAO forest policies relating to tropical forestry.
- 1033 Marshall, H., 1975.** Some trends in the development of tropical forest plantations. In: Permanent Association Committees Proceedings, 1975: "Global forestry and the western role." Portland, Western Forestry and Conservation Association. pp. 88-91.
- 1034 Marten, K. D., 1990.** Observations on the Tropical Forest Action Plan. *Commonwealth Forestry Review* 69(4):351-353.
- 1035 Martens, T. K., 1989.** Ending tropical deforestation: What is the proper role for the World Bank? *Harvard Environmental Law Review* 13(2):485-533.
 This article examines possible solutions to the deforestation crisis by analyzing the World Bank's current role in national development policies and by suggesting techniques to make the Bank more responsive to the deforestation problem.
- 1036 Massen, J. L., 1983.** Management of tropical mixed forests: Preliminary assessment of present status. Rome, Food and Agriculture Organization, FO/MISC/83/17. 54 pp. (Microfiche)
- 1037 Maydell, H. J. von, 1991.** Agroforestry for tropical rain forests. *Mitteilungen der Bundesforschungsanstalt für Forst und Holzwirtschaft, Hamburg* 165:19-27.
 Advocates the use of agroforestry in the preservation and management of tropical forests.
- 1038 Maydell, H. J. von, 1991.** Agroforestry for tropical rain forests. *Agroforestry Systems* 13(3):259-267.
 The author argues that we need agroforestry to help save the tropical rain forests as much as we need it for agriculture.

- 1039 McComb, A. L. and Jackson, J. K., 1970.** The role of tree plantations in savanna development: Technical and economic aspects (with special reference to Nigeria). In: Food and Agriculture Organization. Report to the second session of the FAO Committee on Forest Development in the Tropics, Rome, Oct. 21-24, 1969. Rome, FAO, FO:FDT-69 Rep. pp. 68-83.
- 1040 McCormick, C. J. and Laarman, J. G., 1989.** Financial sensitivity of alternative forestation incentives in Ecuador. *Forest Ecology and Management* 27(2):149-158.
The results of this study illustrate the difficulty of identifying a single form of plantation subsidy that would be universally effective.
- 1041 McCormick, C. J., 1987.** [Economic analysis of investments in plantation forestry in Ecuador.] Research Triangle Park, NC, Southeastern Center for Forest Economics Research, FPEI Working Paper no. 13. Various pagings.
In Spanish.
- 1042 McTaggart, W. D., 1983.** Forestry policy in Bali, Indonesia. *Singapore Journal of Tropical Geography* 4(2):147-161.
Bali's forestry policy is predominately conservationist.
- 1043 Meijer, W., 1975.** Indonesian forests and land use planning: Report on a fact-finding tour aimed towards a co-ordinated development of forest resources in Indonesia. Lexington, University of Kentucky Book Store. 112 pp.
Reports on the author's trip to Indonesia to study the feasibility of improved management of the timber resources in Borneo and Sumatra.
- 1044 Mellink, W., Rao, Y. S., and MacDicken, K. G., editors, 1991.** Agroforestry in Asia and the Pacific. Bangkok, Winrock International Institute for Agricultural Development; Food and Agriculture Organization, Regional Office for Asia and the Pacific, RAPA Publication 1991/5. 304 pp.
Governments in the Asia Pacific Region are looking to agroforestry as a sustainable land use system that can minimize forest destruction in the area. The papers included in this volume were presented at a meeting in Bangkok, May 15-18, 1990.
- 1045 Mendoza, G. A. and Ayemou, A. O., 1992.** Analysis of some forest management strategies in Cote d'Ivoire: A regional case study. *Forest Ecology and Management* 47(1-4):149-174.
This paper examines existing and alternative forest management scenarios using a multiperiod linear programming model." (p. 149)
- 1046 Mergen, F. and Vincent, J. R., editors, 1987.** Natural management of tropical moist forests: Silvicultural and management prospects of sustained utilization. New Haven, CT, Yale University, School of Forestry and Environmental Studies. 212 pp.
A collection of papers arranged under the following headings: Silvicultural systems; silvicultural treatments; and economic, social, and political aspects of management.

- 1047 Mgeni, A. S. M., 1991.** A more efficient forest estate: Natural forest or plantations. In: Pyatt, N. and Williams, J., eds. *Tropical forestry: Third world priorities versus western concerns: Proceedings of the 1990 International Student Forestry Symposium, University of Wales, Jan. 1990.* Bangor, University of Wales. pp. 42-59.
- 1048 Miller, H. G., 1989.** Investment in large-scale forest plantations and its implications for research. Kuala Lumpur, Forest Research Institute Malaysia, FRIM Reports 50:22-34.
Paper presented at the Forest Research Institute Malaysia on Mar. 31, 1989, in conjunction with the 1989 IM Research Advisory Committee Meeting, Mar. 27-Apr. 1, 1989.
- 1049 Miller, K. R., Reid, W. V., and Barber, C. V., 1991.** Deforestation and species loss: Responding to the crisis. In: Matthews, J. T., ed. *Preserving the global environment: The challenge of shared leadership.* New York, W.W. Norton. pp. 78-111.
Discusses the scope, causes and implications of tropical deforestation and species loss and suggests policies to change the current trends.
- 1050 Miranda, M. L., Corrales, O. M., Regan, M., and Ascher, W., 1992.** Forestry institutions. In: Sharma, N. P., ed. *Managing the world's forests: Looking for balance between conservation and development.* Dubuque, IA, Kendall/Hunt. pp. 269-299.
"This chapter examines three countries where new approaches to forest management have been established (Colombia, Honduras, and Malaysia). These approaches involve financing arrangements that provide partial or full administrative funding for the forestry institution directly from forestry operations." (p. 269)
- 1051 Mnzava, E. M., 1990.** The impact and implications of the Tropical Forest Action Plan in the developing countries: Concepts and practice. In: Tarlton, G. L., ed. *Forestry: A multiple-use enterprise.* Proceedings of the thirteenth Commonwealth Forestry Conference, Rotorua, Sept. 1989. Rotorua, New Zealand, Forest Research Institute. pp. 278-282.
- 1052 Mok, S. T. and Thang, H. C., 1985.** Resource allocation in primary industries for future development in Malaysia. In: Davidson, J. et al., eds. *The future of tropical rain forests in South East Asia.* Gland, Switzerland, IUCN Commission on Ecology Papers no. 10. pp. 115-122.
Discusses the allocation of land in the primary industries within the agricultural and forestry sectors.
- 1053 Mok, S. T., 1984.** Forest land use with particular reference to Peninsular Malaysia. In: Velasco, A. B. et al., eds. *Proceedings of the First ASEAN Forestry Congress, Manila, Oct. 10-15, 1983.* Quezon City, Philippines, Bureau of Forest Development. Vol. 2, pp. 314-329.
- 1054 Mok, S. T., 1990.** Predicted future directions in the management of forests. In: Stevens, M. E. et al., eds. *Research policy for community forestry, Asia-Pacific Region: Proceedings of a seminar, Bangkok, Jan. 8-11, 1990.* Bangkok, Regional Community Forestry Training Centre, RECOFTC Report no. 5. pp. 16-24.
Discusses forest management in the tropics.

- 1055 Mok, S. T., 1986.** Sustained use and management of forests: A Malaysian perspective. In: Land use, watersheds, and planning in the Asia-Pacific region. Bangkok, FAO Regional Office for Asia and the Pacific, RAPA Report 1986/3. pp. 34-43.
The author gives an overview of the state of forest resources in Malaysia and outlines the legislative, institutional, and operational measures under which Malaysia's forests are managed.
- 1056 Muir-Leresche, K., 1990.** Forest policy: An African perspective. *Journal of Business Administration* 19(1-2):121-134.
"The major issues confronting forest policies in Africa are the sustainable development and utilization of natural forests and the incorporation of trees in the farming systems." (p. 131)
- 1057 Munasinghe, M., 1992.** Environmental economics and valuation in development decisionmaking. [Washington, DC] World Bank, Environment Dept., Environment Working Paper no. 51. 77 pp.
This paper reviews how environmental economics facilitates the efficient use of natural resources. Case studies include a valuation of an Amazonian rainforest.
- 1058 Myers, N. and Goreau, T. J., 1991.** Tropical forests and the greenhouse effect: A management response. *Climatic Change* 19(1):215-225.
The authors conclude: "Grand-scale reforestation in the humid tropics could alleviate part of the global carbon dioxide problem at relatively small cost." (p. 223)
- 1059 Myers, N., 1992.** Tropical forests: The policy challenge. *Environmentalist* 12(1):15-27.
This paper examines the issue of deforestation and proposes an expanded policy approach of suitable scale to meet the challenge.
- 1060 Nair, P. K. R., 1987.** Agroforestry in the context of land clearing and development in the tropics. In: Tropical land clearing for sustainable agriculture: Proceedings of an IBSRAM inaugural workshop, Bangkok, 1985. Bangkok, International Board for Soil Research and Management, IBSRAM Proceedings no. 3. pp. 29-44.
- 1061 Nair, P. K. R., 1985.** Agroforestry in the context of land clearing and development in the tropics. Nairobi, International Council for Research in Agroforestry, ICRAF Working Paper no. 33. 41 pp. + tables & figures.
Paper presented to the Inaugural Workshop on the Land Clearing and Development Soil Management Network, International Board for Soil Research and Management (IBSRAM), Aug. 26-Sept. 2, 1985, Jakarta, Indonesia.
- 1062 Nair, P. K. R., 1987.** Agroforestry systems in major ecological zones of the tropics and subtropics. Nairobi, International Council for Research in Agroforestry, ICRAF Working Paper no. 47. 15 pp. + appendix.
Paper prepared for the ICRAF/WMO International Workshop on the Application of Meteorology to Agroforestry Systems Planning and Management, Nairobi, 9-13 Feb. 1987.

1063 Nair, P. K. R., Follis, M. B., and Murphy, T. P., 1991. Agroforestry and sustainable development in the humid tropical lowlands of Latin America and the Caribbean. In: *Proceedings of the Humid Tropical Lowlands Conference: Development strategies and natural resource management*, Panama City, June 1991. Vol. I. Bethesda, MD, Development Strategies for Fragile Lands. pp. 55-72.

The conclusion is that the development of agroforestry systems offers a solution to some of the land use problems in Latin America and the Caribbean region.

1064 Nair, P. K. R., 1990. The prospects for agroforestry in the tropics. Washington, DC, World Bank, World Bank Technical Paper no. 131. 77 pp.

The purpose of this report is to review the available technical, economic and socio-cultural information on agroforestry and assess the potential of various agroforestry practices to address some of the land-use problems in the tropics. (p. x)

1065 Nair, P. K. R., 1990. Tropical agroforestry systems and practices. *Resource Management and Optimization* 7(1-4):227-250.

1066 Nair, P. K. R., 1990. Tropical agroforestry systems and practices. In: Furtado, J. I. et al., eds. *Tropical resources: Ecology and development*. New York, Harwood Academic Publishers. pp. 227-250.

Reprinted from *Resource Management and Optimization* 7(1-4):227-250.

1067 Nair, P. K. R., editor, 1989. *Agroforestry systems in the tropics*. Boston, Kluwer Academic Publishers. 664 pp.

Includes sections on agroforestry systems in the Asia-Pacific region, in Africa, and in Latin America.

1068 National Research Council, 1982. *Ecological aspects of development in the humid tropics*. Washington, DC, National Academy Press. 297 pp.

Includes a chapter on management considerations for forested lands.

1069 Nazmi, N., 1991. Deforestation and economic growth in Brazil: Lessons from conventional economics. *Centennial Review* 35(2):315-322.

"The framework of conventional economics is used to explain the problem of deforestation as it relates to alternative uses of forest such as cattle ranching. It is argued that economic policies of the Brazilian government and ill-defined property rights led to conditions that made destruction of the forest for the purpose of cattle raising a rational economic decision." (p. 315)

1070 Neil, P. E., 1981. *Problems and opportunities in tropical rain-forest management*. Oxford University, Commonwealth Forestry Institute, C.F.I. Occasional Papers no. 16. [176]pp.

Describes the problems and opportunities that exist in methods used to manage tropical rainforest ecosystems. The emphasis is on natural regeneration.

- 1071 Okigbo, B. N., 1980.** Development of multiple-use management for tropical forests through research in Africa. In: IUFRO/MAB Conference: Research on Multiple Use of Forest Resources, Flagstaff, AZ, May 18-23, 1980. U.S. Forest Service, General Technical Report WO-25. pp. 26-38.
Discusses the need to consider the complex socio-economic problems of African countries when establishing a program of multiple-use forest management.
- 1072 Okon, E. U., 1966.** The impact of world trends on tropical forestry policies in Africa. In: Proceedings of the Sixth World Forestry Congress, Madrid, 1966. Vol. 3, pp. 3149-3156.
- 1073 Oldeman, R. A. A., 1979.** Blueprints for a new tropical agroforestry tradition. In: Agroforestry: Proceedings of the 50th "Tropische Landbouwdag" (Symposium on Tropical Agriculture) 1978. Amsterdam, Royal Tropical Institute, Dept. of Agricultural Research, Bulletin no. 303. pp. 25-34.
- 1074 Osemeobo, G. J., 1990.** Land use policies and biotic conservation: Problems and prospects for forestry development in Nigeria. *Land Use Policy* 7(4):314-322.
Discusses forest policy and forest management systems in Nigeria.
- 1075 Otto, W. M., 1987.** Forestry and agriculture: An alliance for survival: Some observations on tropical forest policies. In: Beusekom, C. F. van et. al., eds. Wise utilization of tropical rain forest lands. Ede, Netherlands, Tropenbos Programme, Tropenbos Scientific Series no. 1. pp. 94-102.
- 1076 Ovington, J. D., 1975.** Forest management in relation to ecological principles. In: IUCN. Proc. of a regional meeting on the use of ecological guidelines for development in the tropical forest areas of South East Asia, 1974. Morges, Switzerland, IUCN Pub. N.S. no. 32. pp. 111-119.
- 1077 Palmer, J. and Synnott, T. J., 1992.** The management of natural forests. In: Sharma, N. P., ed. Managing the world's forests: Looking for balance between conservation and development. Dubuque, IA, Kendall/Hunt. pp. 337-373.
Discusses the factors needed for effective forest management in the tropics.
- 1078 Palmer, J. R., 1975.** Towards more reasonable objectives in tropical high forest management for timber production. *Commonwealth Forestry Review* 54(3-4):273-289.
- 1079 Pandey, J. N., 1981.** Problems of forest land classification for sustainable uses in India. In: Carpenter, R. A., ed. Assessing tropical forest lands: Their suitability for sustainable uses. Dublin. Tycooly International Publishing Ltd. pp. 159-162.
- 1080 Paris, R. and Ruzicka, I., 1991.** Barking up the wrong tree: The role of rent appropriation in sustainable tropical forest management. [Manila, Asian Development Bank], ADB Environment Office, Occasional Paper no. 1. 27 pp. + appendix.
The purpose of this paper is to assess the validity of attributing the process of forest depletion to insufficient rent capture and to examine the policy prescriptions resulting from such an interpretation. (p. 2)

- 1081 Paris, R. and Ruzicka, J., 1991.** Tropical forests as a source of wealth: The role of rent appropriation in tropical forest management reassessed. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area F, Part 1. *Revue Forestiere Francaise, Hors Serie no. 7.* pp. 86-97.
 "This paper argues that the concept of 'economic rent' as recently applied to tropical forest management has been used incorrectly..." (p. 86)
- 1082 Pellek, R., 1990.** Combating tropical deforestation in Haiti. *Journal of Forestry* 88(9):15-19.
 The author presents a personal assessment of the key elements that should be included in a Tropical Forestry Action Plan for Haiti.
- 1083 Pereira, H. C., 1989.** Policy and practice in the management of tropical watersheds. Boulder, Westview Press. 237 pp.
 Includes a chapter on the role of forests in watershed management.
- 1084 Pereira, H. C., 1991.** The role of forestry in the management of tropical watersheds. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area C. *Revue Forestiere Francaise, Hors Serie no. 3.* pp. 139-150.
- 1085 Perera, W. R. H., 1981.** Forest land assessment and management for sustainable uses, Sri Lanka - Country report. In: Carpenter, R. A., ed. *Assessing tropical forest lands: Their suitability for sustainable uses.* Dublin, Tycooly International Publishing Ltd. pp. 305-314.
- 1086 Perl, M. A. et al., 1991.** Views from the forest: Natural forest management initiatives in Latin America. [Washington, DC] World Wildlife Fund, Tropical Forestry Program. [31] pp.
 Report on a workshop held Dec. 3-7, 1990, to assess the experience of 14 natural forest management initiatives throughout Latin America. Co-authors are: M. J. Kiernan, D. McCaffrey, R. J. Buschbacher, and G. J. Batmanian.
- 1087 Perl, M. A., Kiernan, M. J., Buschbacher, R. J., and Batmanian, G. J., 1991.** Views from the forest: Natural forest management initiatives in Latin America. In: Proceedings of the Humid Tropical Lowlands Conference: Development strategies and natural resource management, Panama City, June 1991. Vol. IV. Bethesda, MD, Development Strategies for Fragile Lands. pp. 103-107.
 Abstract only.
- 1088 Poore, D. and Sayer, J., 1991.** The management of tropical moist forest lands: Ecological guidelines. 2d ed. Gland, Switzerland, IUCN, IUCN Forest Conservation Programme. 69 pp.
 The main changes in this edition relate to issues raised by the evolving Tropical Forestry Action plan, the work of the International Tropical Timber Organization, by new information about species extinction and deforestation rates, and a more critical examination of the timber industry. (p. vii)

- 1089 Poore, D., 1976.** Ecological guidelines for development in tropical rain forests. Morges, Switzerland, IUCN Books. 39 pp.
- 1090 Poore, D., 1975.** Ecological guidelines for the development of the American humid tropics. In: Proc. of Int. Meeting on the Use of Ecological Guidelines for Development in the American Humid Tropics, Caracas, 1974. Morges, Switzerland, Int. Union for Cons. of Nature and Nat. Res., IUCN Publ. N.S. no. 31. pp. 225-247.
A summary of the conclusions reached at the meeting, compiled by Duncan Poore.
- 1091 Postel, S. and Heise, L., 1988.** Reforesting the earth. Washington, DC, Worldwatch Institute, Worldwatch Paper no. 83. 66 pp.
Discusses tree planting and the establishment of plantations in the tropics.
- 1092 Poutanen, M., 1985.** Agroforestry in tropical land use with special reference to the Peruvian Amazon. University of Helsinki, Institute of Development Studies, Report 9/1985 B. 111 pp.
- 1093 Price, C., 1990.** Deforestation and economic criteria. *Project Appraisal* 5(3):159-166.
"This paper identifies technical economic flaws in the typical economic analysis used to justify deforestation (logging) projects in tropical forests." (p. 159)
- 1094 Queensland Department of Forestry, 1983.** Rainforest research in North Queensland: A position paper issued by the Queensland Department of Forestry. [Brisbane] Queensland Dept. of Forestry. 52 pp.
The purpose of this paper is to provide the research background to the management of tropical rainforests in Queensland.
- 1095 Qureshi, A. H. et al., 1980.** Assessing tropical forest lands: Their suitability for sustainable uses. Hawaii, East-West Center, East-West Environment and Policy Institute. 69 pp.
A report of the Conference on Forest Land Assessment and Management for Sustainable Uses, June 19-28, 1979. Honolulu, Hawaii. Co-authors were L. S. Hamilton, D. Mueller-Dombois, W. R. H. Perera, and R. A. Carpenter.
- 1096 Qureshi, A. H., 1981.** Forest land classification and capability assessment in Pakistan. In: Carpenter, R. A., ed. *Assessing tropical forest lands: Their suitability for sustainable uses.* Dublin, Tycooly International Publishing Ltd. pp. 239-246.
- 1097 Ramirez, A., Sere, C., and Uquillas, J., 1992.** An economic analysis of improved agroforestry practices in the Amazon lowlands of Ecuador. *Agroforestry Systems* 17(1):65-86.
- 1098 Rankin, J. M., 1985.** Forestry in the Brazilian Amazon. In: Prance, G. T. and Lovejoy, T. E., eds. *Amazonia.* New York, Pergamon Press. pp. 369-392.
Following a historical overview, the author discusses logging activities, forest resources, forest administration, plantations, and management of native tropical rainforests.

- 1099 Repetto, R. and Gillis, M., editors, 1988.** Public policies and the misuse of forest resources. New York, Cambridge University Press. 432 pp.
Includes case studies from 10 countries illustrating that inappropriate government policies can contribute to uneconomic and ecologically damaging exploitation. An overview chapter discusses the extent and rate of deforestation and the reasons for deforestation in tropical countries.
- 1100 Repetto, R., 1988.** Needed: New policy goals. *American Forests* 94(11/12):59,82-86.
Rational policies toward forest exploitation, forest-based industrialization, and conversion of forests to other land uses are needed in the tropics.
- 1101 Repetto, R., 1988.** The forest for the trees? Government policies and the misuse of forest resources. Washington, DC, World Resources Institute. 105 pp.
The author and other contributors contend that in many countries, government policies are the main cause of deforestation. Includes case studies from 10 countries, among them, Indonesia, Malaysia, Philippines, and Brazil.
- 1102 Revilla, A. V., Jr., 1981.** Land assessment and management for sustainable uses in the Philippines. In: Carpenter, R. A., ed. *Assessing tropical forest lands: Their suitability for sustainable uses.* Dublin, Tycooly International Publishing Ltd. pp. 277-288.
The emphasis is on forest land management.
- 1103 Riesz, P., 1990.** Managing tropical forests can benefit economies. *World Wood* 31(3):21-22.
The author contends that the major cause of tropical forest destruction is not the logging industry but is slash and burn farming and that governments need to offer assistance to counter this.
- 1104 Roberts, R. W., 1990.** Commonwealth countries and the Tropical Forestry Action Plan. In: Tarlton, G. L., ed. *Forestry: A multiple-use enterprise. Proceedings of the thirteenth Commonwealth Forestry Conference, Rotorua, Sept. 1989.* Rotorua, New Zealand, Forest Research Institute. pp. 273-277.
Of the 48 countries forming the Commonwealth, 21 are involved in the preparation of a national forestry plan within the framework of the Tropical Forestry Action Plan (TFAP).
- 1105 Roberts, R. W., 1991.** TFAP an evolving process: Role of the TFAP Forestry Advisers Group. In: 10th World Forestry Congress, Paris, 1991. *Proceedings, Discussion Area F., Part 2. Revue Forestiere Francaise, Hors Serie no. 8.* pp. 323-328.
Reviews the role of the Tropical Forestry Action Plan Forestry Advisors Group since its creation in 1985.
- 1106 Ross, M. S. and Donovan, D. G., 1986.** Land clearing in the humid tropics: Based on experience in the conversion of tropical moist forests in South East Asia. London, IIED-Earthscan; Cambridge, IUCN Publications Service, IUCN/IIED Tropical Forest Policy Paper no. 1. 19 pp.
Discusses methods of land clearing and issues regarding land clearing in tropical moist forests. These include environmental, economic, social, and political issues.

- 1107 Ross, M. S. and Donovan, D. G., 1986.** The world Tropical Forestry Action Plan: Can it save the tropical forests? *Journal of World Forest Resource Management* 2(2):119-136.
Reviews the proposals of a group of scientists working with the World Resources Institute and those of the FAO Committee on Forest Development in the Tropics.
- 1108 Ross, M. S., 1984.** Towards a farm model for sustainable, low-input agroforestry systems in the humid tropics with reference to Indonesia. *International Tree Crops Journal* 3(1):49-61.
"The aim of this paper is to suggest a possible farm model for agroforestry systems that can be sustainable on marginal land in the humid tropics and yet require relatively low inputs." (p. 49)
- 1109 Rowe, R. D. H., 1990.** Challenges facing the Tropical Forestry Action Plan and opportunities for enhanced Commonwealth involvement. In: Tarlton, G. L., ed. *Forestry: A multiple-use enterprise. Proceedings of the thirteenth Commonwealth Forestry Conference, Rotorua, Sept. 1989. Rotorua, New Zealand, Forest Research Institute.* pp. 283-288.
- 1110 Salas, G. De las, 1979.** Workshop Agro-Forestry Systems in Latin America, Turrialba, Costa Rica, Mar. 26-30, 1979: Proceedings. Turrialba, Centro Agronomico Tropical de Investigacion y Ensenanza. 220 pp.
The contributors to the workshop emphasized that "agroforestry systems constitute a particularly appropriate technique for maintaining an elevated productivity, that at the same time minimizes social and environmental damage." (p. 1)
- 1111 Salleh, M. N., 1984.** The future of tropical forests of South Asia. In: Lortie, M., ed. *Forest resources management - The influence of policy and law: Speeches and papers [presented at] International Forest Congress, Quebec City, Aug. 1984.* pp. 111-120.
This paper focuses on policies, management of natural forests, forest plantations, and conservation efforts.
- 1112 Salmi, J., 1988.** Land reform: A weapon against tropical deforestation? In: Palo, M. and Salmi, J. *Deforestation or development in the Third World? Vol. II. Metsantutkimuslaitoksen Tiedonantoja* 309:159-182.
- 1113 Samapuddhi, K., 1966.** The impact of world trends on tropical forest policy in Asia. In: *Proceedings of the Sixth World Forestry Congress, Madrid, 1966. Vol. 3, pp. 3094-3098.*
- 1114 Saouma, E., 1987.** The future of the forests: Implementing the Tropical Forestry Action Plan. *Unasyuva* 39(157-158):2-3.
- 1115 Sargent, K., 1965.** The role of tropical forestry in economic development with particular reference to forest policy, administration, and legislation. In: *Proceedings of the Duke University Tropical Forestry Symposium, Durham, NC, Apr. 21-26, 1965. Duke University School of Forestry, Bulletin no. 18.* pp. 98-133.

- 1116 Satjapradja, O., 1982.** Agroforestry: A promising system for optimizing and diversifying the forest resource. In: Srivastava, P. B. L., et al., eds. Tropical forests: Source of energy through optimisation and diversification. Serdang, Selangor, Malaysia, Penerbit Universiti Pertanian Malaysia. pp. 147-150.
 "The practice of agroforestry can be focussed on the rehabilitation of waste lands which are found in very large areas in the tropics." (p. 150)
- 1117 Sattaur, O., 1991.** Last chance for the rainforest plan? *New Scientist* 129(1758):20-21.
 Discusses the "failure" of the Tropical Forestry Action Plan and questions whether it can be reformed.
- 1118 Savenije, H., 1990.** Tropical Forestry Action Plan: Recent developments and Netherlands involvement. Wageningen, Netherlands, Stichtingvoor Nederlandse Bosbouw Ontwikkelingssamenwerking, BOS Document no 11. 52 pp.
- 1119 Schmid, M., 1978.** The Melanesian forest ecosystems (New Caledonia, New Hebrides, Fiji Islands and Solomon Islands). In: Unesco et al. Tropical forest ecosystems: A state-of-knowledge report. Paris, Unesco, Natural Resources Research no. 14. pp. 654-683.
 Includes information on forest utilization and management.
- 1120 Schmidt, R., 1987.** Tropical rain forest management: A status report. *Unasyuva* 39(156):2-17.
 Reviews management systems in selected areas of closed broad-leaved tropical forests.
- 1121 Schmidt, R. C., 1991.** Tropical rain forest management: A status report. In: Gomez-Pompa, A. et al., eds. Rain forest regeneration and management. Paris, Unesco; Park Ridge, NJ, Parthenon Publishing Group. Man and the Biosphere Series. Vol. 6, pp. 181-207.
 Reviews attempts at natural management of tropical rain forests in Asia, Latin America and Africa. Emphasis is given to management for timber and wood products.
- 1122 Schmink, M. and Wood, C. H., 1987.** The "political ecology" of Amazonia. In: Little, P. D. et al., eds. Lands at risk in the Third World: Local-level perspectives. Boulder, Westview Press. pp. 38-57.
 Through an approach which the authors call "political ecology," they illustrate "how economic and political processes determine the way natural resources have been exploited in frontier regions of northern Brazil." (p. 39)
- 1123 Sedjo, R. A., 1984.** An economic assessment of industrial forest plantations. *Forest Ecology and Management* 9(4):245-257.
 "The results of a detailed investigation of the comparative economics of industrial forest plantations in twelve regions of the globe, including nine in the tropics and Southern Hemisphere, are reported." (p. 245)

- 1124 Sedjo, R. A., 1992.** Can tropical forest management systems be economic? *Journal of Business Administration* 20(1-2):505-517.
 "This paper compares the financial returns to two hypothetical forest management regimes undertaken on the same site in the dipterocarp Asia-Pacific region." (p. 505)
- 1125 Sedjo, R. A., 1983.** The comparative economics of plantation forestry: A global assessment. Washington, DC, Resources for the Future. 161 pp.
 Two issues are addressed: (1) The economic feasibility of forestry plantations in various areas of the world; (2) the long term ecological impacts of plantations in tropical areas. (p. x)
- 1126 Seth, S. K. and Kaul, O. N., 1978.** Tropical forest ecosystems of India: The teak forests (as a case study of silviculture and management). In: Unesco et al. Tropical forest ecosystems: A state-of-knowledge report. Paris, Unesco. Natural Resources Research no. 14. pp. 628-640.
- 1127 Shaheduzzaman, M., 1990.** Agro-forestry systems in South-East Asia. Yale School of Forestry and Environmental Studies, Tropical Resources Institute, TRI Working Paper no. 49. 34 pp.
 Discusses the potential value of agroforestry as a sustainable land use system in Southeast Asian countries.
- 1128 Sheikh Ali Abod et al., editors, 1991.** Proceedings of a regional symposium on recent developments in tree plantations of humid/subhumid tropics of Asia, Universiti Pertanian Malaysia, June 5-9, 1989. Serdang, Selangor, Universiti Pertanian Malaysia, Faculty of Forestry. 839 pp.
 Includes papers on the following topics: Roles of tree plantations; species selection and plant production; site selection, preparation and environmental aspects of plantations; cultural practices; economics of plantations; plantations for farmers; and, utilization of plantation trees.
- 1129 Shepherd, K. R. and Richter, H. V., editors, 1985.** Managing the tropical forest: Papers from a workshop, Gympic, Australia, July 11-Aug. 12, 1983. Canberra, Australian National University, Development Studies Centre. 341 pp.
 Includes papers on "land use planning and forest management," "management control of harvesting," "rainforest dynamics," and "alternatives to natural management" including plantation silviculture and community forestry.
- 1130 Shiva, V., 1987.** Forestry crisis and forestry myths: A critical review of Tropical Forests: A Call to Action. Penang, Malaysia, World Rainforest Movement. [56] pp.
 A critical review of the Tropical Forestry Action Plan. "Tropical Forests: A Call for Action" is a joint report of the World Bank, UNDP, and the World Resources Institute.
- 1131 Sirin, L. M., 1977.** Preliminary assessment of the comparative economics of plantations and natural forests in Malaysia. In: Sastry, C. B. et al., eds. A new era in Malaysian forestry. Serdang, Selangor, Malaysia, Universiti Pertanian Malaysia. pp. 149-167.

- 1132 Smiet, A. C., 1991.** Tropical forestry in the 21st century: A view on limitations and opportunities. *BOS Nieuwsletter* 10(3):17-21.
Discusses future trends in tropical forest management and policy.
- 1133 Society of American Foresters, 1992.** Tropical forestry: A position of the Society of American Foresters. *Journal of Forestry* 90(6):42-43.
This statement expresses the support of the SAF for efforts to improve the management of tropical forests. This includes: Cooperative exchange efforts, education, government efforts, and private sector initiatives.
- 1134 Soediarso Warsopranoto, R., 1974.** Some points on planning and management of the tropical rainforest in Indonesia. In: *Papers from a Symposium on Coordinated Study of Lowland Forests of Indonesia*, Darmaga, Bogor, July 2-5, 1973. Bogor, Indonesia, BIOTROP and IBP. pp. 66-70.
- 1135 Soerianegara, I., 1982.** Socio-economic aspects of forest resources management in Indonesia. In: Hallsworth, E. G., ed. *Socio-economic effects and constraints in tropical forest management*. New York, Wiley. pp. 73-86.
- 1136 Solorzano, R. et al., 1991.** Accounts overdue: Natural resource depreciation in Costa Rica. Washington, DC, World Resources Institute. 110 pp.
The project team concluded that "the standard accounting system's (UN System of National Accounts) blind spot has led Costa Rican decision-makers farther and farther from development choices that would have been economically and environmentally sustainable." (p. viii.) Co-authors are: R. de Camino, R. Woodward, J. Tosi, V. Watson, A. Vasquez, C. Villalobos, J. Jimenez, R. Repetto, and W. Cruz.
- 1137 Sono, P., 1982.** Maximization of timber products from tropical forest. In: Srivastava, P. B. L. et al., eds. *Tropical forests: Source of energy through optimisation and diversification*. Serdang, Selangor, Malaysia, Penerbit Universiti Pertanian Malaysia. pp. 107-113.
Some suggestions are given for maximizing production from tropical forests.
- 1138 Southgate, D., Sanders, J., and Ehui, S., 1990.** Resource degradation in Africa and Latin America: Population pressure, policies, and property arrangements. *American Journal of Agricultural Economics* 72(5):1259-1263.
The authors contend that "in many parts of the developing world, deforestation is a prerequisite for formal or informal land tenure and conversion of forests into cropland and pasture is directly or indirectly subsidized." (p. 1259)
- 1139 Spears, J., 1990.** Regional and global initiatives under the Tropical Forestry Action Plan. In: Tarlton, G. L., ed. *Forestry: A multiple-use enterprise. Proceedings of the thirteenth Commonwealth Forestry Conference, Rotorua, Sept. 1989*. Rotorua, New Zealand, Forest Research Institute. pp. 291-294.
Discusses "emerging global constraints to forest conservation and the potential for collective TFAP action."

- 1140 Spears, J., 1988.** The Tropical Forestry Action Plan: Environmental concerns and donor response. In: McDermott, M. J., ed. The future of the tropical rain forest: Proceedings of an international conference, Oxford, June 27-28, 1988. Oxford, Oxford Forestry Institute. pp. 23-27.
- 1141 Spears, J. S., 1979.** Can the wet tropical forest survive? *Commonwealth Forestry Review* 58(3):165-180.
Discusses the rate of and consequences of tropical deforestation and the role of plantations in management systems for the wet tropical forests.
- 1142 Spears, J. S., 1983.** Replenishing the world's forests: Tropical reforestation: An achievable goal? *Commonwealth Forestry Review* 62(3):201-217.
"This paper highlights past reforestation achievements and examines some of the major constraints. Twenty developing country reforestation 'success stories' are analysed... Ten of these relate to farm forestry... the other ten are examples of industrial plantation forestry." (p. 201)
- 1143 Srivastava, P. B. L. et al., editors, 1982.** Tropical forests: Source of energy through optimisation and diversification: Proceedings, International Forestry Seminar, Serdang, Selangor, Malaysia, Nov. 11-15, 1980. Serdang, Selangor, Malaysia, Penerbit Universiti Pertanian Malaysia. 397 pp.
Includes papers relating to the management and utilization of tropical forest resources.
- 1144 Steinlin, H., 1991.** Challenge to forest policy: Conservation and development of tropical forests. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area F, Part 1. *Revue Forestiere Francaise, Hors Serie no. 7.* pp. 185-193.
"Forestry policy must be seen as a part of general development policy and be considered with other sectorial policies." (p. 185)
- 1145 Stowe, R. C., 1987.** United States foreign policy and the conservation of natural resources: The case of tropical deforestation. *Natural Resources Journal* 27(1):55-101.
The author suggests that "it is in the interest of the United States Government to implement policies for improved management of tropical forests. The most effective approach is through development aid." (p. 55)
- 1146 Strange, J. D., 1966.** The role of land-use planning and zoning in protecting forest land resources with special reference to the tropics. In: Proceedings of the Sixth World Forestry Congress, Madrid, 1966. Vol. 3, pp. 3162-3166.
- 1147 Sumitro, A., 1984.** Review of tropical rain forest administration and revenue system: Their role in resource management, growth and equity. Indonesia Bureau of Planning, Dept. of Agriculture; IDRC/USAID. 62 pp.
- 1148 Sutton, S. L., Whitmore, T. C., and Chadwick, A. C., editors, 1983.** Tropical rain forest: Ecology and management. Oxford, Blackwell. British Ecological Society Special Publication no. 2. 498 pp.

- 1149 Svanqvist, N., 1976.** Employment opportunities in the tropical moist forest under alternative silvicultural systems, including agrisilvicultural techniques. [Rome] Food and Agriculture Organization, Committee on Forest Development in the Tropics, 4th session, Rome, Nov. 15-20, 1976. FO/FDT/76/6b. 14 pp.
Summarizes available knowledge regarding the requirement of human resources in utilizing tropical forests, and puts this requirement into socio-economic perspective. (p.1)
- 1150 Synnott, T., 1989.** South America and the Caribbean. In: Poore, D. et al. No timber without trees: Sustainability in the tropical forest. London, Earthscan Publications Ltd. pp. 74-116.
Discusses tropical forest management in the ITTO member countries in Central and South America and the Caribbean: Brazil, Bolivia, Ecuador, Honduras, Peru, and Trinidad and Tobago.
- 1151 Synnott, T. J. and Kemp, R. H., 1975.** The relative merits of natural regeneration, enrichment planting and conversion planting in tropical moist forests, including agri-silvicultural techniques. Oxford, Commonwealth Forestry Institute. 12 pp. mimeo.
Includes a discussion of constraints on management, such as, land availability, financial resources, and human and technical resources.
- 1152 Synnott, T. J. and Kemp, R. H., 1976.** The relative merits of natural regeneration enrichment planting, and conversion planting in tropical moist forests, including agrisilvicultural techniques. [Rome] Food and Agriculture Organization, Committee on Forest Development in the Tropics, 4th session, Rome, Nov. 15-20, 1976. FO/FDT/76/7a. 12 pp.
- 1153 Tan, K. C. and Douglass, R., 1990.** Harvesting and planting management in the tropics: A case study. In: Tarlton, G. L., ed. Forestry: A multiple-use enterprise. Proceedings of the thirteenth Commonwealth Forestry Conference, Rotorua, Sept. 1989. Rotorua, New Zealand, Forest Research Institute. pp. 256-261.
Discusses the Sabah Softwoods Sdn. Bhd. afforestation project in Sabah, Malaysia.
- 1154 Tan, R., 1991.** An overview of forest plantation development in Malaysia. Asian Timber 10(1):27-29.
Discusses forest plantation establishment in Peninsular Malaysia, Sabah, and Sarawak, including the role of fiscal incentives.
- 1155 Tang, H. T., Pinso, C., and Marsh, C., editors, 1988.** Future role of forest plantations in the national economy and incentives required to encourage investments in forest plantation development. Kota Kinabalu, Sabah-World Bank For. Tech. Assist. Project; TROPENBOS. 208 pp.
Proceedings of a seminar, Kota Kinabalu, Sabah, Malaysia, Nov. 1987.
- 1156 Tanglely, L., 1986.** Saving tropical forests. BioScience 36(1):4-8.
Discusses a report sponsored by the World Bank, the World Resources Institute, and the United Nations Development Program entitled "Tropical forests: A call for action."

- 1157 Taplin, R. E., 1991.** Scientific information usage and technocratic politics in the rainforest debate. In: *The rainforest legacy: Australian national rainforests study. Vol. 3: Rainforest history, dynamics and management.* Canberra, Australian Government Publishing Service. pp. 277-281.
 "This paper examines aspects of how scientific and technical information is used in the debate about the future of Australian rainforests. The primary focus of the paper is on the use of scientific and technical information by state forest agencies in their technocratic decisions about management of rainforests." (p. 277)
- 1158 Taylor, G. F., II and Soumare, M., 1984.** Strategies for forestry development in the semi-arid tropics: Lessons from the Sahel. In: Wiersum, K. F., ed. *Strategies and designs for afforestation, reforestation and tree planting.* Wageningen, Pudoc. pp. 137-167.
- 1159 Thaman, R. R., 1988.** Fijian agroforestry: Trees, people and sustainable polycultural development. In: *Fiji's rainforests: Our heritage and future. Proceedings 2nd National Conservation Congress, Suva, Fiji, June 9-10, 1988.* Suva, National Trust for Fiji. Vol. 1, pp. 143-171.
- 1160 Thang, H. C., 1987.** Forest management systems for tropical high forest, with special reference to Peninsular Malaysia. *Forest Ecology and Management* 21(1-2):3-20.
- 1161 Thein, Pe, 1983.** Economics of teak plantation management in Burma. M.S. Thesis, University of Minnesota, College of Forestry. 152 pp.
 Two objectives of this study are: 1) To examine the economics of different management alternatives; and 2) to propose a suitable management regime for long-term planning.
- 1162 Thornton, A. R., 1988.** Present Malaysian tax structure in relation to forest plantation development. In: Tang, H. T. et al., eds. *Future role of forest plantations in the national economy and incentives required to encourage investments in forest plantation development.* Kota Kinabalu, Sabah-World Bank For. Tech. Assist. Proj.; TROPENBOS. pp. 141-153.
- 1163 Tighe, P. G., 1991.** The Australian developmental ethos and the past, present and future of Australian rainforests. In: *The rainforest legacy: Australian national rainforests study. Vol. 3: Rainforest history, dynamics and management.* Canberra, Australian Government Publishing Service. pp. 269-275.
 "This paper is concerned with the influences that societal beliefs and values have on public policy in Australia and, in particular, on government policy that affects rainforest utilisation." (p. 269)
- 1164 Toledo, J. M. and Torres, F., 1990.** Potential of silvopastoral systems in the rain forest. In: Moore, E., ed. *Agroforestry land-use systems.* Waimanalo, Hawaii, Nitrogen Fixing Tree Association, Special Publication 90-02. pp. 35-52.
 "This paper discusses the possibilities and potential of integrated tree-pasture systems on rain forest lands as a means of developing sustainable production systems." (p. 35.) Examples are given of experiences in Southeast Asia and in tropical America.

- 1165 Touber, L., Smaling, E. M. A., Andriess, W., and Hakkeling, R. T. A., 1989.** Inventory and evaluation of tropical forest land: Guidelines for a common methodology. Ede, Netherlands, Tropenbos Foundation, Tropenbos Technical Series no. 4. 170 pp.
- 1166 U.S. Forest Service, 1989.** Global neighbors growing together: A tropical forestry program. U.S. Forest Service. 16 pp. + map.
Describes how the Forest Service is responding to the Tropical Forestry Action Plan.
- 1167 U.S. Interagency Task Force on Tropical Forests, 1980.** The world's tropical forests: A policy, strategy, and program for the United States. Report to the President. Washington, DC, Dept. of State, Publication 9117, International Organization and Conference Series no. 145. 53 pp.
Includes chapters on the character and importance of tropical forests, deforestation, the international framework to deal with the problems, and the U.S. role.
- 1168 Uhl, C., Jordan, C. F., and Herrera, R., 1982.** Amazon forest management for wood production: An assessment of limitations and potentials based on field studies at San Carlos de Rio Negro, Venezuela. In: Hallsworth, E. G., ed. Socio-economic effects and constraints in tropical forest management. New York, Wiley. pp. 143-157.
- 1169 Uhl, C., 1988.** Restoration of degraded lands in the Amazon Basin. In: Wilson, E. O. and Peter, F. M., eds. Biodiversity. Washington, DC, National Academy Press. pp. 326-332.
- 1170 Umali, R. M., 1981.** Forest land assessment and management for sustainable uses in the Philippines. In: Carpenter, R. A., ed. Assessing tropical forest lands: Their suitability for sustainable uses. Dublin, Tycooly International Publishing Ltd. pp. 289-304.
- 1171 Usher, A. D. et al., 1991.** TFAP on trial: An open discussion. *Ceres* 23(3):15-27.
A discussion of the merits of the Tropical Forestry Action Plan by three critics (Usher, C. Sargent, and M. Colchester) and two defenders (D. Walton and Y. S. Rao).
- 1172 Valdares, T., 1991.** Deforestation: A Brazilian perspective. In: Tulchin, J.S., ed. Economic development and environmental protection in Latin America. Boulder, Lynne Rienner Publishers. pp. 55-59.
Briefly discusses various Brazilian government policies that have attempted to deal with the problem of deforestation.
- 1173 Vanclay, F., 1991.** The contribution of policy analysis to the resolution of conflict over the future of Australian rainforest. In: The rainforest legacy: Australian national rainforests study. Vol. 3: Rainforest history, dynamics and management. Canberra, Australian Government Publishing Service. pp. 245-250.
- 1174 Vandembeldt, R. J., 1992.** Agroforestry in the semi-arid tropics. *Unasylva* 43(168):41-47.
"This article examines agroforestry technologies for the semi-arid tropics and provides suggestions that may enhance their implementation." (p. 41)

- 1175 Vanniere, B., 1975.** Management possibilities of tropical high forest in Africa. Rome, Food and Agriculture Organization. 62 pp.
- 1176 VanOrsdol, K. G., 1987.** Buffer zone agroforestry in tropical forest regions. U.S. Forest Service, Forestry Support Program. 67 pp.
 "Agroforestry buffer zones offer the potential for solving many of the problems facing protected forest areas and the human population surrounding them." (p. iii.) The report recommends five criteria which can be used in identifying particular areas where agroforestry buffer zone projects could be most effective. Includes case studies.
- 1177 Vergara, N. T. and Briones, N. D., editors, 1987.** Agroforestry in the humid tropics: Its protective and ameliorative roles to enhance productivity and sustainability. Honolulu, Environment and Policy Institute, East-West Center, College, Laguna, Philippines, Southeast Asian Regional Center for Graduate Study and Research in Agriculture. 259 pp.
 Includes papers presented at a workshop held at the University of the Philippines at Los Banos on Sept. 4-11, 1985.
- 1178 Vergara, N. T., 1987.** Agroforestry: A sustainable land use for fragile ecosystems in the humid tropics. In: Gholz, H. L., ed. Agroforestry: Realities, possibilities and potentials. Dordrecht, Martinus Nijhoff. pp. 7-19.
- 1179 Vincent, J. R., 1990.** Rent capture and the feasibility of tropical forest management. *Land Economics* 66(2):212-223.
 "This paper analyzes how the inefficiency of tropical timber royalty systems affects the feasibility of tropical forest management." (p. 212)
- 1180 Virtucio, F. D. and Torres, M. G., 1978.** Status of management and utilization of forest resources in the Philippines. *Malaysian Forester* 41(2):149-166.
 Paper presented at the ASEAN Seminar on Tropical Rainforest Management, Kuantan, Nov. 7-10, 1977.
- 1181 Voss, R., 1982.** Agroforestry and forest plantations: An integrated approach to land use. In: Srivastava, P. B. L. et al., eds. Tropical forests: Source of energy through optimisation and diversification. Serdang, Selangor, Malaysia, Penerbit Universiti Pertanian Malaysia. pp. 255-265.
 The author contends that a combination of forestry and agroforestry plantations, practiced on a commercial scale, can help meet the future demand for tropical wood products.

- 1182 Wadsworth, F. H., 1981.** Management of forest lands in the humid tropics under sound ecological principles. In: Mergen, F., ed. *International symposium on tropical forests utilization and conservation: Ecological, sociopolitical and economic problems and potential.* New Haven, CT, Yale University School of Forestry and Environmental Studies. pp. 168-180.
The author discusses "sound management alternatives for the humid tropics." He advocates research in areas such as land capability classification, the setting aside of reserves to save germplasm, research on subsequent generation plantations, and agroforestry.
- 1183 Wadsworth, F. H., 1975.** Natural forests in the development of the humid American tropics. In: *Proc. of Int. Meeting on the Use of Ecological Guidelines for Development in the American Humid Tropics, Caracas, 1974.* Morges, Switzerland, IUCN, IUCN Publications N.S. no. 31. pp. 129-138.
- 1184 Wadsworth, F. H., 1983.** Production of usable wood from tropical forests. In: Golley, F. B., ed. *Tropical rain forest ecosystems: Structure and function.* New York, Elsevier. *Ecosystems of the World 14A.* pp. 279-288.
Discusses production from native forests and from forest plantations.
- 1185 Wadsworth, F. H., 1984.** Secondary forest management and plantation forestry technologies to improve the use of converted tropical lands. U.S. Forest Service, Institute of Tropical Forestry. 82 pp.
Parts of this report appeared in "Technologies to sustain tropical forest resources," published by the Office of Technology Assessment, U.S. Congress, 1984.
- 1186 Walker, R. T., 1987.** Land use transition and deforestation in developing countries. *Geographical Analysis* 19(1):18-30.
This paper presents a model of land use transition that reveals conditions under which logging interests abandon cut plots to follow-on farmers. The model incorporates key characteristics of forest utilization contracts so that the effects of particular contracts may be observed. Thus, the model serves as a basis for designing contracts that can help control deforestation. (p. 18)
- 1187 Watson, G. A., 1983.** Development of mixed tree and food crop systems in the humid tropics: A response to population pressure and deforestation. *Experimental Agriculture* 19(4):311-332.
- 1188 Westoby, J. C., 1983.** How to save the tropical forests (conclusion). *BOS Nieuwsletter* 2(4):6-14.
The first part of this article was published in *BOS Nieuwsletter* 2(3):15-23.
- 1189 Westoby, J. C., 1983.** Saving the tropical forests: Some facts which have to be faced. *Australian Forestry* 46(4):241-250.
Keynote address at the 10th Triennial Conference, Institute of Foresters of Australia.
- 1190 White, K. J., 1977.** Forest management requirements in lowland rain forest in Papua New Guinea. *Papua New Guinea Tropical Forestry Research Note SR.35.* 5 pp.

- 1191 Whitmore, J. L., Barros, N. F. de, and Salazar, R., editors, 1986.** Plantation forests for wood production in the neotropics. Washington, DC, U.S. Government Printing Office. 147 pp.
Includes 127 abstracts of papers presented at three IUFRO/MAB symposia held in 1980 in Puerto Rico, in 1983 in Brazil, and in 1985 in Costa Rica, dealing with plantation silviculture in Latin America.
- 1192 Whitmore, J. L., 1987.** Plantation forestry in the tropics of Latin America: A research agenda. *Unasylva* 39(156):36-41.
The author reviews some of the constraints to plantation forestry in Latin America and describes 10 urgent research priorities needed to help overcome these problems.
- 1193 Whitmore, J. L., editor, 1981.** Wood production in the neotropics via plantations: Proceedings of an international symposium, IUFRO S1-07-09 Working Group, Rio Piedras, Puerto Rico, Sept. 8-12, 1980. U.S. Forest Service, International Forestry Staff. 393 pp.
The papers included deal with growth, yield, economics, plantation systems, techniques, and disease problems in industrial plantations, and related subjects such as agroforestry and environmental considerations.
- 1194 Willan, R. L., 1988.** Economic returns from tree improvement in tropical and sub-tropical conditions. Danida Forest Seed Centre, Technical Note no. 36. 38 pp.
- 1195 Willan, R. L., 1989.** Management of tropical moist forests in Africa. Rome, Food and Agriculture Organization, FAO Forestry Paper no. 88. 165 pp.
"This paper considers natural forest management in a restricted sense which may be thought of as controlled and regulated harvesting, combined with silvicultural and protective measures....The paper also considers plantation management systems on tropical moist forest sites." (p. iii)
- 1196 Winterbottom, B., 1988.** Environmental implications of the Tropical Forestry Action Plan. In: McDermott, M. J., ed. The future of the tropical rain forest: Proceedings of an international conference, Oxford, June 27-28, 1988. Oxford, Oxford Forestry Institute. pp. 28-32.
- 1197 Winterbottom, R., 1990.** Taking stock: The Tropical Forestry Action Plan after five years. Washington, DC, World Resources Institute. 59 pp.
This report calls attention to flaws in the TFAP and details steps which in the opinion of the World Resources Institute are necessary to revitalize the TFAP planning process.
- 1198 Wirjodarmodjo, H. and Bratamihardja, M., 1984.** Policies, strategies and designs of forest development on the island of Java. In: Wiersum, K. F., ed. Strategies and designs for afforestation, reforestation and tree planting. Wageningen, Pudoc. pp. 363-374.
Discusses forest policy and management in Java.

- 1199 Woessner, R. A., 1983.** Plantation forestry and natural forest utilization in the lower Amazon basin. In: Proceedings of the 1982 Convention of the Society of American Foresters, Cincinnati, Ohio, 1982. [Bethesda, MD] Society of American Foresters. pp. 268-271.
- 1200 Wood, P. J., 1976.** The development of tropical plantations and the need for seed and genetic conservation. In: Burley, J. and Styles, B. T., eds. Tropical trees: Variation, breeding and conservation. London, Academic Press. Linnean Society Symposium Series no. 2. pp. 11-18.
Discusses the management of tropical high forest, the status of tropical forest plantations, and the needs for conservation.
- 1201 World Bank, 1992.** A strategy for Asian forestry development. Washington, DC, World Bank. 20 pp.
"This paper discusses the policy reforms needed if Asia's forests are to be wisely used and outlines the strategy the Bank is pursuing in forestry and related lending." (p. 1) Undated; received in library, 1992.
- 1202 World Bank, 1991.** The forest sector. Washington, DC, World Bank. 98 pp.
A World Bank policy paper which identifies two key challenges: "to slow the alarmingly rapid rates of deforestation, especially (although not exclusively) in the tropical moist forests, and to ensure adequate planting of new trees to meet the rapidly growing demand for fuelwood in developing countries." (p. 5)
- 1203 World Resources Institute, 1985.** Tropical forests: A call for action. Washington, DC, World Resources Institute. 3 vols. (49 pp., 55 pp., 22 pp.)
Report of an international task force convened by the World Resources Institute, the World Bank, and the United Nations Development Programme. Part I: The plan; Part II: Case studies; Part III: Country investment profiles.
- 1204 Wyatt-Smith, J. and Vincent, A. J., 1962.** Progressive development in the management of tropical lowland evergreen rain forest and mangrove forest in Malaya. *Malayan Forester* 25(3):199-223.
Traces the development of the management of tropical lowland evergreen rain forest and mangrove forest in Malaya since the first known report on forests was published in 1879. Discusses present (1962) problems and probable future development.
- 1205 Wyatt-Smith, J., 1987.** The management of tropical moist forest for the sustained production of timber: Some issues. London, IIED-Earthscan; Cambridge, IUCN Publications Service, IUCN/IIED Tropical Forest Policy Paper no. 4. 20 pp.
- 1206 Young, A., 1988.** Agroforestry and its potential to contribute to land development in the tropics. *Journal of Biogeography* 15(1):19-30.
- 1207 Yusuf, H. and Kamis, A., 1982.** Desirable features for timber management planning systems in tropical countries. In: Srivastava, P. B. L. et al., eds. Tropical forests: Source of energy through optimisation and diversification. Serdang, Selangor, Malaysia, Penerbit Universiti Pertanian Malaysia. pp. 171-178.
Discusses several features desirable for tropical timber management planning systems.

TRADE AND INDUSTRIAL DEVELOPMENT



- 1208 Abdul Razak bin Abdul Majid, 1977.** Future of timber and timber products exports from Malaysia. In: Sastry, C. B., et al., eds. *A new era in Malaysian forestry*. Serdang, Selangor, Malaysia, Universiti Pertanian Malaysia. pp. 191-212.
- 1209 Abdul-Kader, R., 1982.** Current status of forests and forest industries of Peninsular Malaysia. *Journal of the Institute of Wood Science* 9(4):161-167.
Gives an overview of the wood-based industry of Peninsular Malaysia. The management of forest lands is also discussed.
- 1210 Abeli, W. S., 1979.** Harvesting timber in Tanzania. In: *Proceedings of the Second Yale Student Symposium on Timber Harvesting, Transportation, and Utilization*. New Haven, Yale University, School of Forestry and Environmental Studies. pp. 187-196.
- 1211 Adams, D. M., 1985.** A spatial equilibrium model of African-European trade in tropical logs and sawnwood. *Forest Ecology and Management* 13(3-4):265-287.
"This paper presents a modeling study of African-European trade in tropical logs and sawnwood designed to provide a vehicle for examining questions of trade potential and policy impacts." (p. 266)
- 1212 Adeyoju, S. K., 1975.** *Forestry and the Nigerian economy*. Ibadan, Ibadan University Press. 308 pp.
Discusses the forest sector as a whole and in particular examines the competitive ability of Nigerian firms in selling forest products in international markets.
- 1213 Agaloos, B. C., 1984.** Silvicultural and logging systems in the Philippines. In: Velasco, A. B. et al., eds. *Proceedings of the First ASEAN Forestry Congress, Manila, Oct. 10-15, 1983*. Quezon City, Philippines, Bureau of Forest Development. Vol. 2, pp. 210-221.
Includes a discussion of environmental concerns relating to logging practices.
- 1214 Alig, R. J. and Ingram, C. D., 1988.** Ecuador's competitiveness in forest products: Some multi-country comparisons. Research Triangle Park, NC, Southeastern Center for Forest Economics Research, FPEI Working Paper no. 38. 44 pp.
"This paper discusses research methods for assessing competitiveness in forest products, applied to the case of Ecuador."
- 1215 Allen, R. C., Straka, T. J., and Watson, W. F., 1986.** Indonesia's developing forest industry. *Environmental Management* 10(6):753-759.
"Indonesia is a major exporter of tropical hardwoods. This article contrasts the official governmental policy on forest industry development with the operational realities of doing business in Indonesia." (p. 753)

- 1216 Anderson, P., 1989.** The myth of sustainable logging: The case for a ban on tropical timber imports. *Ecologist* 19(5):166-168.
- 1217 Anguile, A. G., 1977.** [An examination of the forestry and timber industry possibilities in South-East Asian countries.] *Bois et Forêts des Tropiques* 174:61-76.
Reviews the forest industries and wood production in Malaysia, Indonesia, the Philippines, Burma, and Thailand. In French, with English summary.
- 1218 Arden-Clarke, C., 1992.** South-North terms of trade: Environmental protection and sustainable development. *International Environmental Affairs* 4(2):122-138.
"Current terms of trade and the consequent trade flows pose environmental as well as economic problems for developing countries." (p. 122.) The trade in tropical timber is used as an example of these problems.
- 1219 Arnold, J. E. M., 1978.** Economic and political environment for investment in natural tropical forest development. In: *Proceedings of Conference on Improved Utilization of Tropical Forests*, Madison, May 21-26, 1978. U.S. Forest Products Laboratory. pp. 523-541.
- 1220 Arnold, J. E. M., 1978.** Economic and political environment for investment in natural tropical forest development. In: *Papers for Conference on Improved Utilization of Tropical Forests*, Madison, May 21-26, 1978. U.S. Forest Products Laboratory. pp. 399-413.
Reviews "some of the economic and political considerations that can enter into the choice of development projects based on the tropical high forest." (p. 401)
- 1221 Asia Pacific Forest Industries Development Group, 1983.** Asia-Pacific region tropical timber trade. Kuala Lumpur, Food and Agriculture Organization, FO:RAS/78/010, Review Paper no. 2. [38]pp. (Microfiche)
- 1222 Asian Development Bank, 1978.** Sector paper on forestry and forest industries. Manila, Asian Development Bank. 78 pp.
Among the purposes of this paper are: 1) To outline the role of forestry and forest industries in socio-economic development; and 2) to indicate significant trends in regional forest economics.
- 1223 Baharuddin, H. G. and Tong, K. H., 1988.** Supply of and demand for timber and wood-based products in Malaysia. In: Tang, H. T. et al., eds. *Future role of forest plantations in the national economy and incentives required to encourage investments in forest plantation development*. Kota Kinabalu, Sabah-World Bank For. Tech. Assist. Proj.; TROPENBOS. pp. 53-60.
Reviews present and future timber supplies and demand for timber and wood-based products in Malaysia.
- 1224 Baharuddin, H. G., 1984.** Peninsular Malaysia's timber industry in perspective. *Malaysian Forester* 47(1):70-79.

- 1225 Baldock, D. and Hewett, J., 1989.** Possible European Community initiatives in relation to the tropical timber trade. [Gland, Switzerland, WWF International.] 50 pp.
This WWF International Discussion Paper "attempts to identify some of the principal options to the European Community in promoting the long-term conservation of tropical forests, particularly the possibility of restricting imports." (p. 2)
- 1226 Becker, M., 1975.** The introduction of tropical wood products on export markets: Problems and measures. In: Tropical moist forest. Mitteilungen der Bundesforschungsanstalt für Forst und Holzwirtschaft 109:143-155.
A background paper prepared for an FAO technical conference on the tropical moist forest, planned to take place in 1975, but never held. Discusses investment by foreign enterprises in the wood- processing industries of developing countries.
- 1227 Beekman, W. B., 1966.** [The tropical timber market in the Netherlands.] Bois et Forêts des Tropiques 105:57-62.
The author traces the history of the import and use of tropical timbers in the Netherlands since the 17th century and concludes with an analysis of the present (1966) market situation. In French, with English summary.
- 1228 Bell, G. S., 1982.** Forestry Development Corporations in Papua New Guinea. Commonwealth Forestry Review 61(2):99-106.
The FDCs have a 75% Papua New Guinean shareholding but are managed by foreign companies.
- 1229 Bernas, A. G., 1990.** Forest industry and trade. Philippine Lumberman 36(1):16-24.
The author contends that campaigns by environmental groups to save the tropical forest will cause the collapse of the Philippine timber industry. He states that the industry should be seen as "a potent ally" in the sustainable development of the forest.
- 1230 Bertrand, A., 1978.** [The evolution of tropical wood production and trade: The situation of Africa.] Bois et Forêts des Tropiques 178:45-67.
The author traces the evolution of trade in forest products. In French, with English summary.
- 1231 Bethel, J. S. et al., 1982.** The role of U.S. multinational corporations in commercial forestry operations in the tropics. Seattle, University of Washington, College of Forest Resources. 306 pp.
A report submitted to the U.S. State Dept. Co-authors are: D. G. Briggs, S. P. Gessel, R. G. Lee, and G. F. Schreuder. "The objective of this study is to examine the role of U.S. multinational corporations...engaged in commercial forestry operations in the tropics and to assess U.S. government policy options with respect to such corporations and their operations." (p. 1)
- 1232 Bethel, J. S., 1988.** Tropical countries: Suppliers or consumers of forest products? In: Johnson, J. A. and Smith, W. R., eds. Forest products trade: Market trends and technical developments. Seattle, University of Washington Press. pp. 193-197.
"The purpose of this paper is to suggest criteria for evaluating a tropical country as a trading partner with the United States." (p. 193)

- 1233 Blitterswijk, D. van, 1991.** Netherlands forestry development cooperation: Accomplishments and future direction. *BOS Nieuwsletter* 10(2):7-16.
The overall objective of the programs is to combat poverty and to stimulate self-reliance of the tropical countries.
- 1234 Bolivia Center for Forestry Development, 1988.** Forestry development options for the Amazonian forests, with special reference to the tropical forests of Chimanes in Bolivia: Pre-project report. Yokohama, International Tropical Timber Organization, PPR 10/88. 113 pp.
Discusses the development of the forest industry in Bolivia, with an emphasis on the ecological aspects of development.
- 1235 Booth, H. E., 1978.** Integrated utilization of tropical forests. In: *Proceedings of the Eighth World Forestry Congress, Jakarta, Oct. 1978.* Vol. VI-A, pp. 251-271.
Discusses the utilization of tropical forests in regard to the following industries: Logs, poles and piles, sleepers, sawnwood, veneer, plywood, particle board, fibreboard, fuel energy, charcoal, and pulp and paper.
- 1236 Braga, C. A. P., 1992.** Tropical forests and trade policy: The cases of Indonesia and Brazil. In: Low, P., ed. *International trade and the environment.* Washington, DC, World Bank, World Bank Discussion Papers no. 159. pp. 173-193.
"This paper focuses on the role played by international trade in the process of depletion of tropical moist forests." (p. 174)
- 1237 Brazier, J. D., 1978.** Complete integrated utilization of tropical forests. In: *Proceedings of the Eighth World Forestry Congress, Jakarta, Oct. 1978.* Vol. VI-A, pp. 349-360.
Includes some discussion relating to marketing.
- 1238 Browder, J. O., 1987.** Brazil's export promotion policy (1980-1984): Impacts on the Amazon's industrial wood sector. *Journal of Developing Areas* 21(3):285-304.
"This paper examines the impacts of Brazil's export promotion policy on the structure and conduct of the Amazon's industrial wood sector between 1980 and 1984." (p. 285)
- 1239 Browder, J. O., 1986.** Logging the rainforest: A political economy of timber extraction and unequal exchange in the Brazilian Amazon. Ph.D. dissertation, University of Pennsylvania; Ann Arbor, MI, University Microfilms International. 393 pp.
Examines the regional development implications of the concentration of capital in the industrial wood sector, and specifically in the mahogany trade.
- 1240 Browder, J. O., 1989.** Lumber production and economic development in the Brazilian Amazon: Regional trends and a case study. *Journal of World Forest Resource Management* 4(1):1-19.
This paper examines the contribution of the lumber industry to the economic development of the Brazilian Amazon region.

- 1241 Buongiorno, J. and Svanqvist, N., 1982.** A separable goal-programming model of the Indonesian forestry sector. *Forest Ecology and Management* 4(1):67-78.
Presents a model designed to analyze long-term development plans of the forestry sector of Indonesia.
- 1242 Buongiorno, J., Svanqvist, N. H. H., and Wiroatmodjo, P., 1981.** Forestry sector development planning: A model for Indonesia. *Agricultural Systems* 7(2):113-135.
"Given specific targets for domestic demand and exports of timber products, the model determines the geographic patterns of timber production, industrial processing, and transportation which minimize costs." (p. 134)
- 1243 Byron, R. N. and Quintos, M. A., 1988.** Log export restrictions and forest industries development in Southeast Asia (1975-1986): The case of the Philippines. In: Dargavel, J., et al., eds. *Changing tropical forests: Historical perspectives on today's challenges in Asia, Australasia and Oceania.* Canberra, Australian National University, Centre for Resource and Environmental Studies. pp. 427-446.
"The paper is part of a larger study examining the strategy of accelerated development of forest industries pursued by certain Southeast Asian nations since the mid-1970s." (p. 427)
- 1244 Centeno, J. C., 1988.** [Exploitation of tropical forests.] 3rd ed. Merida, Venezuela, Instituto Forestal Latinoamericano. 95 pp.
Discusses the forest products industry in the tropics and trade of tropical timber. In Spanish.
- 1245 Chauvin, H., 1976.** Factors conditioning the methods and costs of opening up and harvesting the tropical moist forests. [Rome] Food and Agriculture Organization, Committee on Forest Development in the Tropics, 4th session, Rome, Nov. 15-20, 1976. FO:FDT/76/6(a). 7 pp.
Considers the physical, political, social, and economic factors which influence operations and costs.
- 1246 Chauvin, H., 1976.** Opening up the tropical moist forest and harvesting the timber: Factors conditioning methods and costs. *Unasylva* 28(112/113):80-85.
- 1247 Chin, S. C., 1989.** Shifting cultivation and logging in Sarawak. In: *Logging against the natives of Sarawak.* Selangor, Malaysia, Institute of Social Analysis. pp. 57-62.
The author discusses the conflict between shifting cultivators and loggers in Sarawak, and maintains that shifting cultivation is not a threat to the forests.
- 1248 Chudnoff, M., 1973.** Development of the tropical wood resource. U.S. Agency for International Development, TA/OST 73-23. 72 pp.
Includes a ten year (1960-1969) summary of roundwood removals, production, and trade.
- 1249 Colchester, M., 1990.** The International Tropical Timber Organization: Kill or cure for the rainforests? *Ecologist* 20(5):166-173.
The author criticizes ITTO as "little more than a lobbying group for timber interests."

- 1250 Commission of Inquiry, 1990.** The Barnett report: A summary of the report of the Commission of Inquiry into Aspects of the Timber Industry in Papua New Guinea. Hobart, Tasmania. Asia-Pacific Action Group. 58 pp.
This document summarizes a 5500 page report which was written "to provide... a record of the social, political and environmental effects of logging" in Papua New Guinea.
- 1251 Contreras, A., 1976.** Policies for investment in forestry in Latin America. In: Forest policies for stimulating investment in developing countries. Mitteilungen der Bundesforschungsanstalt für Forst und Holzwirtschaft 112:7-16.
- 1252 Cooper, R. J., 1982.** Developments and opportunities in the British tropical timber market. In: Oldeman, R. A. A., ed. Tropical hardwood utilization: Practice and prospects. The Hague, Martinus Nijhoff. pp. 341-350.
- 1253 Coopers and Lybrand Consultants, 1990.** Australia's role in the international tropical timber industry. Main report. [Canberra] Dept. of the Arts, Sport, the Environment, Tourism and Territories. 120 pp.
Three main areas were examined: 1) The extent of Australia's participation in the international tropical timber industry and its impact on tropical forests; 2) the range of policy options which are available; and, 3) the environmental and socio-economic impact of each option on the tropical forests and forest source countries and on Australia.
- 1254 Correa de Lima, J. P. and Mercado, R. S., 1985.** The Brazilian Amazon Region: Forest industry opportunities and aspirations. Commonwealth Forestry Review 64(2):151-156.
- 1255 Cottle, L. E., Schreuder, G. F., and Barros, A. A. A. de, 1990.** Brazil: A country profile of the forests and forest industries. University of Washington, Center for International Trade in Forest Products, CINTRAFOR Working Paper no. 27. 116 pp.
Reviews the literature and data pertaining to the forest resource and forest industry of Brazil.
- 1256 Counsell, S., 1990.** The good wood guide: A Friends of the Earth handbook. London, Friends of the Earth. 75 pp.
A guide to the tropical timbers which the Friends of the Earth say should be avoided. Includes a list of alternatives to tropical hardwoods. Provides a listing of companies which have agreed to stop selling tropical timber or timber products.
- 1257 Dan Juat Mei, 1977.** The prospects of log importation for industrial expansion in Peninsular Malaysia. Malaysian Forester 40(2):85-89.
Paper presented at the Sixth Malaysian Forestry Conference, Kuching, Sarawak, October 1976.
- 1258 Djarwo, A. E., Straka, T. J., and Watson, W. F., 1985.** Investment in Indonesian timber industries. Resource Management and Optimization 3(3):227-239.
"Indonesian investment policy has created opportunities for foreign investment in timber industries." (p. 227)

- 1259 Donahue, G., 1986.** The International Tropical Timber Agreement: What difference will it make? In: Schreuder, G. F., ed. World trade in forest products, 2. Seattle, University of Washington Press. pp. 242-247.
Discusses the effect of the agreement on international trade in timber.
- 1260 Eastin, I. L., Addae-Mensah, A., and Graft-Yartey, J. de, 1992.** Tropical timber boycotts: Strategic implications for the Ghanaian timber industry. *Unasylva* 43(170):39-44.
"This article examines the impact of European consumer boycotts of tropical timber on the Ghanaian timber industry, as perceived by the managing directors of 52 sawmills in Ghana." (p. 39)
- 1261 ECE/FAO Agriculture and Timber Division, 1982.** Study of the trade and utilization of tropical hardwoods. In: Oldeman, R. A. A., ed. Tropical hardwood utilization: Practice and prospects. The Hague, Martinus Nijhoff. pp. 151-247.
- 1262 Economic Commission for Europe and Food and Agriculture Organization, 1978.** Study on the trade and utilization of tropical hardwoods. Geneva, United Nations, Timber Bulletin for Europe vol. 30, suppl. 10. 94 pp.
- 1263 Elliott, G. K., 1988.** The future of the tropical forest: The trade views. In: McDermott, M. J., ed. The future of the tropical rain forest: Proceedings of an international conference, Oxford, June 27-28, 1988. Oxford, Oxford Forestry Institute. pp. 62-63.
The author is with the UK Timber Trade Federation.
- 1264 Erfurth, T. and Rusche, H., 1976.** The marketing of tropical wood: A. Wood species from African tropical moist forests. Rome, Food and Agriculture Organization of the United Nations. 60 pp.
An analysis of the production and trade of 105 commercial species and 112 lesser-used species in 8 countries of West and Central Africa since 1951.
- 1265 Erfurth, T. and Rusche, H., 1976.** The marketing of tropical wood. B. Wood species from South American tropical moist forests. Rome, Food and Agriculture Organization. 32 pp. + appendix.
The purpose of this study "is to provide information to all those concerned with planning and carrying out forest surveys and inventories; industrial feasibility and market studies; tropical timber testing, research, development and promotion work on the national and regional level." (p. iv.) Also cited as FAO Forestry Paper no. 5.
- 1266 Erfurth, T., 1974.** International trade and trade flows of tropical forest products. In: Properties, uses, and marketing of tropical timber, Berlin, June 25-July 7, 1973. Berlin, German Foundation for International Development; Rome, FAO. DSE III-IT 8/73; FO:MISC/74/7. Vol. 2, pp. 99-107.
- 1267 Erfurth, T., 1974.** The marketing of tropical wood - A. Species from African humid tropical forests. In: Properties, uses and marketing of tropical timber, Berlin, June 25-July 7, 1973. Berlin, German Foundation for International Development; Rome, FAO. DSE III-IT 8/73; FO:MISC/74/7. Vol. 2, pp. 197-221.

- 1268 Erfurth, T., 1984.** Trends in timber supplies from tropical regions. In: Dickerhof, H. E. et al., eds. *International forest products trade: Resources and market opportunities.* Madison, Forest Products Research Society. pp. 109-117.
- 1269 Erfurth, T., 1988.** Tropical countries as suppliers of timber to international and domestic markets. In: Johnson, J. A. and Smith, W. R., eds. *Forest products trade: Market trends and technical developments.* Seattle, University of Washington Press. pp. 198-209.
- 1270 Esteve, J., 1988.** [Forest production in the state of Sabah (Malaysia): From outdated techniques to second largest exporter of tropical timber in the world.] *Bois et Forêts des Tropiques* 218:78-87.
Discusses forest exploitation in Sabah from the end of the 19th century to the present. In French, with English summary.
- 1271 Evenson, R. E., 1981.** Tropical forests in economic development. In: Mergen, F., ed. *International symposium on tropical forests utilization and conservation: Ecological, sociopolitical and economic problems and potentials.* New Haven, CT, Yale University School of Forestry and Environmental Studies. pp. 125-142.
The author examines "policy questions dealing with the effective exploitation of existing forest resources." He also discusses issues dealing with improved management and technology in forestry. He does not give much emphasis to the conservation of tropical forests.
- 1272 Ewel, J. and Conde, L. F., 1980.** Potential ecological impact of increased intensity of tropical forest utilization. Bogor, Indonesia, BIOTROP, SEAMEO Regional Center for Tropical Biology, Special Publication no. 11. 70 pp.
An update of the 1976 edition which was published by the U.S. Forest Products Laboratory. The bibliography was updated to early 1980.
- 1273 Ewel, J., 1981.** Environmental implications of tropical forest utilization. In: Mergen, F., ed. *International symposium on tropical forests utilization and conservation: Ecological, sociopolitical and economic problems and potentials.* New Haven, CT, Yale University School of Forestry and Environmental Studies. pp. 157-167.
The author concludes that "the ecological impacts of tropical forest utilization are real." (p. 165)
- 1274 FAO Secretariat, 1970.** Expanding markets for tropical timbers: The role of utilization research. In: Food and Agriculture Organization. *Report of the second session of the FAO Committee on Forest Development in the Tropics, Rome, Oct. 21-24, 1969.* Rome, FAO, FO:FDT-69 Rep. pp. 100-102.
- 1275 Fearnside, P. M. and Rankin, J. M., 1980.** Jari and development in the Brazilian Amazon. *Interciencia* 5(3):146-156.
Discusses whether Jari Florestal e Agropecuria, Ltda. should be used as a model for development in the Amazon.

- 1276 Fearnside, P. M. and Rankin, J. M., 1982.** The new Jari: Risks and prospects of a major Amazonian development. *Interciencia* 7(6):329-339.
Discusses the Jari project on the lower Amazon. Its major activities were silviculture, pulp manufacture, rice growing, mining and logging.
- 1277 Ferguson, I. S., 1979.** International trade in wood products in the Asia-Far East Region. In: Shepherd, K. R. and Richter, H. V., eds. *Forestry in national development: Production systems, conservation, foreign trade and aid.* Canberra, Australian National University, Development Studies Centre, Monograph no. 17. pp. 128-155.
- 1278 Florence, R. G., 1976.** The utilization of tropical forests: Case study of Malaysian forestry and its relevance to Papua New Guinea. In: *Report of Symposium on Ecological Effects of Increasing Human Activities on Tropical and Subtropical Forest Ecosystems, University of Papua New Guinea, Apr. 28-May 1, 1975.* Canberra, Australian Govt. Publ. Service. pp. 13-33.
Describes trends in the use of tropical forests for wood production in Malaysia and discusses how these trends may influence the formulation of forest policy on Papua New Guinea.
- 1279 Flynn, F. A., 1988.** Tropical hardwood supplies in the South Pacific. In: Johnson, J. A. and Smith, W. R., eds. *Forest products trade: Market trends and technical developments.* Seattle, University of Washington Press. pp. 210-216.
The countries included in this study are Fiji, Papua New Guinea, Samoa, Solomon Islands, and Vanuatu.
- 1280 Food and Agriculture Organization, 1974.** Logging and log transport in tropical high forest: A manual on production and costs. Rome, Food and Agriculture Organization, FAO Forestry Development Paper no. 18. 90 pp.
This is a revised and updated edition of a 1970 report by M. Bendz and A. Jarvholm.
- 1281 Food and Agriculture Organization, 1983.** Modelling world trade; tropical timbers. [Rome] Food and Agriculture Organization, Programme in Outlook Studies for Supply and Demand of Forest Products, FO/MISC/83/24. 105 pp. (Microfiche)
- 1282 Food and Agriculture Organization, 1991.** Trade in tropical timber: 1990 annual totals. [Rome] Food and Agriculture Organization, Monthly Bulletin Tropical Forest Products in World Timber Trade, FO:Misc/91/7. 31 pp.
- 1283 Forrest, R. and Harago, Y., 1990.** Japan's Official Development Assistance (ODA) and tropical forests. Gland, Switzerland, WWF International. 21 pp.
Japan consumes 30% of global trade in tropical timber products. In addition to discussing Japan's role in tropical timber trade, this paper is concerned with Japan's impact on tropical forests through its growing foreign aid programs.
- 1284 Fox, G. D., 1973.** Technological opportunities for tropical forestry development. Washington, DC, Office of Science and Technology, Agency for International Development. 31 pp.
The purpose of this paper is to identify developing countries that will give the highest pay-offs from forest technology transfers.

- 1285 Friends of the Earth, 1991. Brazil: 'Sustainability' and the trade in tropical timbers.**
 London, Friends of the Earth. 5 pp.
 A briefing sheet refuting the claims of the timber trade that hardwoods imported into the UK originate from "sustainable" sources.
- 1286 Friends of the Earth, 1991. Cameroon: 'Sustainability' and the trade in tropical timbers.**
 London, Friends of the Earth. 4 pp.
 A briefing sheet refuting the claims of the timber trade that tropical hardwoods imported into the UK originate from "sustainable" sources.
- 1287 Friends of the Earth, 1991. Cote d'Ivoire: 'Sustainability' and the trade in tropical timbers.** London, Friends of the Earth. 4 pp.
 A briefing sheet refuting the claims of the timber trade that tropical hardwoods imported into the UK originate from "sustainable" sources.
- 1288 Friends of the Earth, 1991. Ghana: 'Sustainability' and the trade in tropical timbers.**
 London, Friends of the Earth. 4 pp.
 A briefing sheet refuting the claims of the timber trade that tropical hardwoods imported into the UK originate from "sustainable" sources.
- 1289 Friends of the Earth, 1991. Indonesia: 'Sustainability' and the trade in tropical timbers.**
 London, Friends of the Earth. 5 pp.
 A briefing sheet refuting the claims of the timber trade that tropical hardwoods imported into the UK originate from "sustainable" sources.
- 1290 Friends of the Earth, 1991. Life after logging? The role of tropical timber extraction in species extinction.** London, Friends of the Earth. 40 pp.
 Discusses the ecological impacts of commercial logging in tropical rainforests and the relationship between timber extraction and wildlife extinction.
- 1291 Friends of the Earth, 1991. Malaysia: 'Sustainability' and the trade in tropical timbers.**
 London, Friends of the Earth. 5 pp.
 A briefing sheet refuting the claims of the timber trade that tropical hardwoods imported into the UK originate from "sustainable" sources.
- 1292 Friends of the Earth, 1991. Philippines: 'Sustainability' and the trade in tropical timbers.**
 London, Friends of the Earth. 4 pp.
 A briefing sheet refuting the claims of the timber trade that tropical hardwoods imported into the UK originate from "sustainable" sources.
- 1293 Friends of the Earth, 1992. Plunder in Ghana's rainforest for illegal profit: An expose of corruption, fraud and other malpractice in the international timber trade.** London, Friends of the Earth. 2 vols.; 29 pp., 121 pp.
 This report discusses "the extent of malpractice in Ghana's timber industry during the 1980s. Volume I provides an overview of the main findings. Volume II explores the same issues, in detail, with full reference to the evidence assembled by Friends of the Earth's Tropical Rainforest Campaign." (p. 3)

- 1294 Friends of the Earth, 1990.** Rainforest conservation and the timber trade: A call to action. London, Friends of the Earth. [7] pp.
Friends of the Earth would like to see the timber industry switch to using only sustainably grown tropical hardwoods.
- 1295 Friends of the Earth, 1991.** Sustainability and the trade in tropical rainforest timber. London, Friends of the Earth. 6 pp.
The purpose of this "special briefing" is to assess the validity of claims of sustainability currently being made by companies involved in the trade in tropical timbers.
- 1296 Gallant, M. N., 1960.** Obstacles to tropical forestry: Lack of markets and incomplete utilization. In: Proceedings of the Fifth World Forestry Congress, Seattle, 1960. Vol. 3, pp. 1952-1958.
- 1297 Galvao, A. P. M. and Couto, H. T. Z. do, 1984.** Man-made industrial forests in Brazil: Prospects and constraints. In: Wiersum, K. F., ed. Strategies and designs for afforestation, reforestation and tree planting. Wageningen, Pudoc. pp. 129-136.
- 1298 Ganapin, D. J., Jr., 1987.** The Asian Development Bank and tropical forestry: Boon or bane? In: Proceedings of the Conference on Forest Resources Crisis in the Third World, Penang, Malaysia, Sept. 6-8, 1986. Penang, Sahabat Alam Malaysia. pp. 339-346.
The author concludes that "the ADB's role is adverse to the true development of Third World countries such as the Philippines, including the protection of natural forests and other resources." (p. 346)
- 1299 Gillis, M., 1980.** Fiscal and financial issues in tropical hardwood concessions. Harvard University, Harvard Institute for International Development, Development Discussion Paper no. 110. 126 pp. + appendix.
"The primary focus of this paper is upon financial and related issues in tropical hardwood concession agreements involving transnational enterprises in Southeast Asia." (p. 1)
- 1300 Gillis, M., 1984.** Multinational enterprises, environmental and resource management issues in the tropical forest sector in Indonesia. Harvard University, Center for International Affairs, Development Discussion Paper no. 171. 37 pp. + appendix.
- 1301 Gillis, M., 1987.** Multinational enterprises and environmental and resource management issues in the Indonesian tropical forest sector. In: Pearson, C. S., ed. Multinational corporations, environment, and the Third World: Business matters. Durham, NC, Duke University Press. pp. 64-89.
The author concludes: "Participants in the continuing degradation and deforestation in the tropical forest include multinational firms large and small, host-country holders of concession rights, host governments, and consumers of tropical hardwood products." (p. 89)

- 1302 Gillis, M., 1988.** The logging industry in tropical Asia. In: Denslow, J. S. and Padoch, C., eds. *People of the tropical rain forest*. Berkeley, University of California Press. pp. 177-184.
The author discusses the role of logging in the postwar deforestation of the Philippines, Malaysia, and Indonesia.
- 1303 Grainger, A., 1987.** TROPFORM: A model of future tropical hardwood supplies. In: Cardellicchio, P. A. et al., eds. *Forest sector and trade models: Theory and applications*. Proc. of an Int. Symposium, Nov. 3-4, 1987. Seattle, Univ. of Washington, College of Forest Resources, Center for Int. Trade in Forest Products. pp. 205-212.
TROPFORM is a comprehensive simulation model of the tropical rain forests and world trade in tropical hardwoods.
- 1304 Grainger, A., 1988.** TROPFORM: A model of future tropical hardwood supplies. In: Hall, O. F. and McElwee, R. L., eds. *Eastern hardwoods: An emerging forestry frontier: Proceedings of the 18th Forestry Forum, 1988*. Blacksburg, Virginia Tech. pp. 32-43.
TROPFORM is a comprehensive simulation model of the tropical rain forests and world trade in tropical hardwoods.
- 1305 Grant, I., editor, 1990.** *The good wood manual; specifying alternatives to non-renewable tropical hardwoods*. [London] Friends of the Earth. 110 pp.
Most of the alternatives suggested consist of timbers from Europe and North America.
- 1306 Gregersen, H. M. and Contreras, A., 1975.** *U.S. investment in the forest-based sector in Latin America: Problems and potentials*. Baltimore, Johns Hopkins University Press. 113 pp.
- 1307 Groome, J. G., 1988.** Export demand for wood products from a large-scale, fast-growing plantation programme in Malaysia. In: Tang, H. T. et al., eds. *Future role of forest plantations in the national economy and incentives required to encourage investments in forest plantation development*. Kota Kinabalu, Sabah-World Bank For. Tech. Assist. Proj.; TROPENBOS. pp. 69-88.
"The aim of this paper is to identify the major marketing opportunities available for wood produced from a large scale fast-growing plantation programme in Malaysia."
(p. 69)
- 1308 Gruiter, C. T. R. de, 1968.** Analysis and suggestions to meet future demand for tropical timbers. In: Food and Agriculture Organization. *Report of the first session of the FAO Committee on Forest Development in the Tropics*, Rome, Oct. 18-20, 1967. Rome, FAO, FO/FDT/67 Rep. pp. 89-97.
- 1309 Guillard, J., 1982.** Introduction to tropical hardwood markets. In: Oldeman, R. A. A., ed. *Tropical hardwood utilization: Practice and prospects*. The Hague, Martinus Nijhoff. pp. 145-149.
- 1310 Hamilton, L. S., 1987.** Minimizing the adverse impacts of harvesting in humid tropical forests. In: Lugo, A. E. et al., eds. *Ecological development in the humid tropics: Guidelines for planners*. Morrilton, AR, Winrock International Institute for Agricultural Development. pp. 191-235.

- 1311 Hansom, O. P., 1985.** The tropical closed forest. High Wycombe, Bucks, UK, Timber Research and Development Association, Research Report 6/85. 18 pp.
A discussion of the conservation of tropical forests in relation to international trade in forest products.
- 1312 Hasan, M., 1991.** Sustainable forest management and utilization of timber for domestic timber industry. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area E. Revue Forestiere Francaise, Hors Serie no. 6. pp. 333-338.
Discusses the development of the Indonesian timber industry.
- 1313 Hendrison, J., 1990.** Damage-controlled logging in managed rain forest in Suriname. Wageningen, Netherlands, Agricultural University, Ecology and Management of Tropical Rain Forest in Suriname no. 4. 204 pp.
This study is concerned with sustained timber production of tropical rain forests, particularly with damage control during timber harvesting. It is part of a multidisciplinary research program to develop a forest management system for sustained timber production in Suriname.
- 1314 Hetherington, J. C. and Mohd, B. B., 1991.** Financial investment in the Dipterocarp forests of Peninsular Malaysia: Problems and prospects. In: Pyatt, N. and Williams, J., eds. Tropical forestry: Third world priorities versus western concerns: Proceedings of the 1990 International Student Forestry Symposium, University of Wales, Jan. 1990. Bangor, University of Wales, pp. 34-41.
Discusses the potential of investment in the regeneration of the Dipterocarp forest through natural means rather than enrichment planting and plantation forestry. Also discusses the importance of proper planning, marketing and strategies, manpower and research.
- 1315 Ho, K. S., 1977.** The growth of the sawmilling industry in Peninsular Malaysia and its impact on socio-economic development. Malaysian Forester 40(2):109-117.
Paper presented at the Sixth Malaysian Forestry Conference, Kuching, Sarawak, October 1976.
- 1316 Hofstad, O., 1992.** A preliminary application of the theory of optimal depletion of non-renewable resources to forestry in Cote d'Ivoire. In: Proceedings of the biennial meeting of the Scandinavian Society of Forest Economics, Gausdal, Norway, April 1991. Scandinavian Forest Economics 33:558-569.
Discusses deforestation, the export of logs, and the price of exported logs in the Ivory Coast. These development trends are then compared with what could be expected on the basis of the theory of optimal depletion of nonrenewable resources. The study concentrates on the exploitation of rain forests for wood harvesting.
- 1317 Holliman, J., 1987.** Japan's trade in tropical timber with Southeast Asia. In: Proceedings of the Conference on Forest Resources Crisis in the Third World, Penang, Malaysia, Sept. 6-8, 1986. Penang, Sahabat Alam Malaysia. pp. 250-259.
Summarizes data concerning Japan's market for Southeast Asia's tropical timber from 1960 to 1986.

- 1318 Horta, K., 1991.** The last big rush for the green gold: The plundering of Cameroon's rainforests. *Ecologist* 21(3):142-147.
 "Encouraged by the international development agencies, logging companies are rapidly cutting down the forests before possible restrictions on tropical timber imports into Western countries start to affect their markets." (p. 142)
- 1319 Hpay, T., 1986.** The International Tropical Timber Agreement: Its prospects for tropical timber trade, development and forest management. London, IIED-Earthscan; Cambridge, IUCN Publications Service, IUCN/IIED Tropical Forest Policy Paper no. 3. 18 pp.
 The purpose of this paper is to discuss the ITTA of 1983 and the prospects it holds for tropical timber trade, forest development, environmental improvement, forest industry, and research and development.
- 1320 Hunter, L., 1984.** Tropical forest plantations and natural stand management: A national lesson from East Kalimantan? *Bulletin of Indonesian Economic Studies* 20(1):98-116.
 "The purpose of this paper is to consider the probable effect of the log export prohibition and the development of domestic forest products industries on timber supply from the natural rainforest and to compare...the economics of managing natural forests with the alternative of forming exotic plantations to meet the projected industrial demand." (p. 98)
- 1321 Hyde, W. F. and Sedjo, R. A., 1992.** Managing tropical forests: Reflections on the rent distribution discussion. *Land Economics* 68(3):343-350.
 Discusses the issue of rents and royalties associated with the commercial extraction of tropical timber.
- 1322 Inter-American Development Bank, 1982.** Financing forest-based development in Latin America: Regional conference, Washington, DC, June 22-25, 1982. [Washington, DC, Inter-American Development Bank] 6 vols.
 The six volumes include a conference document entitled, "Financing forest sector investment projects in Latin America: Issues and opportunities," and five technical reports.
- 1323 International Trade Center, 1967.** The major markets for tropical sawnwood in Western Europe. Geneva, GATT International Trade Center. 482 pp.
- 1324 Iusem, A. N., Correa de Lima, J. P., and Mercado, R. S., 1988.** Brazil: The forest sector's participation in international trade. In: Nagy, A., ed. *International trade in forest products*. Bicester, UK, A B Academic Publishers. pp. 37-46.
 Includes export and import data and discusses forest plantations and reforestation.
- 1325 Jabil, D. M., 1984.** The role of industrial forest plantations in future timber supply in the ASEAN region. In: Velasco, A. B. et al., eds. *Proceedings of the First ASEAN Forestry Congress, Manila, Oct. 10-15, 1983*. Quezon City, Philippines, Bureau of Forest Development. Vol. 2, pp. 449-457.
 "Industrial forest plantations, by virtue of their higher productivities and shorter rotations, will play an increasingly important role in future timber production in the region." (p. 449)

- 1326 Jagels, R., 1990.** Is sustainable use feasible? Tropical forest exploitation revisited. *Journal of Forestry* 88(11):43-46.
The fifth of a five-part series on tropical deforestation published in *Woodenboat* magazine. This article discusses the work of the International Tropical Timber Organization (ITTO).
- 1327 Jagels, R., 1990.** Soothing the conscience: Tropical forest exploitation revisited. *Journal of Forestry* 88(10):27-31.
Parts 3 and 4 of a series of articles first published in *Woodenboat*. The title of part 4 is "Alternatives to boycotting." The author gives suggestions for alternatives to boycotting the use of tropical hardwoods.
- 1328 Johnson, B., 1985.** Chimera or opportunity? An environmental appraisal of the recently concluded International Tropical Timber Agreement. *Ambio* 14(1):42-44.
Discusses aspects of the agreement, including the establishment of the International Tropical Timber Organization, opportunities for improving forest management and wood utilization and opportunities for improving marketing and distribution of the exports of producing members.
- 1329 Johnson, B., 1991.** Expansion or eclipse for ITTO? A look at the first five years of the International Tropical Timber Organization and its potential. Gland, Switzerland, WWF International. 13 pp.
A World Wide Fund for Nature Discussion Paper.
- 1330 Johnston, S., 1992.** North/South forest ethics and trade in tropical forest products. *Forestry Chronicle* 68(2):238-240.
Discusses the view of the World Wildlife Fund toward ITTO and TFAP and reviews WWF's suggestions for change.
- 1331 Jonsson, T. and Lindgren, P., 1990.** Logging technology for tropical forests: For or against? Kista, Sweden, Skogsarbeten. 81 pp. + appendix.
Report from the ITTO preproject "Improvement of Harvesting Systems for the Sustainable Management of Tropical Rain Forests."
- 1332 Kartawinata, K., Adisoemarto, S., Riswan, S., and Vayda, A. P., 1981.** The impact of man on a tropical forest in Indonesia. *Ambio* 10(2/3):115-119.
Discusses the "genetic erosion" and the extinction of some species as a result of extensive timber operations in Indonesia's East Kalimantan province.
- 1333 Kauman, W. G., 1987.** Prospective markets for tropical forest products. In: Figueroa Colon, J. C. et al., eds. *Management of the forests of tropical America: Prospects and technologies*. Proceedings of a conference, San Juan, Puerto Rico, Sept. 22-27, 1986. U.S. Forest Service, Institute of Tropical Forestry. pp. 449-469.

- 1334 Krutilla, K., 1988.** A guide to investment and trade in the forest products sector of Southeast Asia: Indonesia, Malaysia, and the Philippines. Research Triangle Park, NC, Southeastern Center for Forest Economics Research, FPEI Working Paper Series no. 32. 189 pp.
 "This report profiles the state of timber resources and wood-based industries, the investment environment, and some marketing issues in each of the three major hardwood producing countries of the Southeast Asian region: Indonesia, Malaysia, and the Philippines." (p. 2)
- 1335 Kumar, R., 1986.** The forest resources of Malaysia: Their economics and development. New York, Oxford University Press. 268 pp.
 Includes chapters on the forest resource base, Malaysia and world hardwood trade, Malaysian forest history, wood-based industries, an econometric analysis of the supply and demand of Malaysian and regional wood products, employment implications for forestry, and fiscal issues in Malaysian forestry.
- 1336 Kumar, R., 1982.** World tropical wood trade: Economic overview. Resources Policy 8(3):177-192.
 "This study examines the changing character of the world hardwood trade and the factors that will affect future supply, demand and price...The study emphasizes the need for huge investments on a global scale in afforestation and research to fully realize the potential of the tropical biomass." (p. 177)
- 1337 Laarman, J. G., Schreuder, G. F., and Anderson, E. T., 1988.** An overview of forest products trade in Latin America and the Caribbean Basin. In: Johnson, J. A. and Smith, W. R., eds. Forest products trade: Market trends and technical developments. Seattle, University of Washington Press. pp. 3-22.
- 1338 Laarman, J. G., Schreuder, G. F., and Anderson, E. T., 1987.** An overview of forest products trade in Latin America and the Caribbean Basin. Research Triangle Park, NC, Southeastern Center for Forest Economics Research, FPEI Working Paper no. 21. [42] pp.
- 1339 Laarman, J. G., 1988.** Export of tropical hardwoods in the twentieth century. In: Richards, J. F. and Tucker, R. P., eds. World deforestation in the twentieth century. Durham, NC, Duke University Press. pp. 147-163.
 Discusses the impact of trade in tropical hardwoods on deforestation.
- 1340 Laarman, J. G., 1992.** Forest economics: Transition and ambiguity. In: Downing, T. E. et al., eds. Development or destruction: The conversion of tropical forest to pasture in Latin America. Boulder, Westview Press. pp. 133-157.
 Discusses recent patterns in production and trade of forest products.
- 1341 Laarman, J. G., 1987.** The economic outlook for forestry in tropical America: A hazardous period for projections. In: Figueroa Colon, J. C. et al., eds. Management of the forests of tropical America: Prospects and technologies. Proceedings of a conference, San Juan, Puerto Rico, Sept. 22-27, 1986. U.S. Forest Service, Institute of Tropical Forestry. pp. 31-48.
 Discusses production and trade in Latin America's forest-based industries.

- 1342 Laarman, J. G., 1984.** Timber exports from Southeast Asia: Away from logs towards processed wood. *Columbia Journal of World Business* 21(1):77-82.
Describes the development and structure of the Asia-Pacific log trade and the shift in timber processing away from Japan and the newly industrializing Far East and towards Indonesia, Malaysia, and the Philippines.
- 1343 Lamb, D., 1988.** A radical approach to tropical forestry: An account of pulpwood logging in Papua New Guinea. In: Dargavel, J. et al., eds. *Changing tropical forests: Historical perspectives on today's challenges in Asia, Australasia and Oceania*. Canberra, Australian National University, Centre for Resource and Environmental Studies. pp. 413-426.
Discusses the history of the Gogol Timber Project begun on the north coast of Papua New Guinea in 1973, and its social and ecological consequences.
- 1344 Lamb, D., 1991.** Combining traditional and commercial uses of rain forests. *Nature and Resources* 27(2):3-11.
Discusses the impact of commercial logging operations on the lives of traditional users and the conflicts between the two groups. Presents case studies from the Asia-Pacific region.
- 1345 Lamb, D., 1990.** Exploiting the tropical rain forest: An account of pulpwood logging in Papua New Guinea. Paris, Unesco; Park Ridge, NJ, Parthenon Publishing Group. *Man and the Biosphere Series*. Vol. 3, 259 pp.
Discusses the Gogol Timber Project and its social and environmental consequences. Includes a chapter on the forests of Papua New Guinea.
- 1346 Lamb, D., 1980.** Some ecological and social consequences of logging rainforests in Papua New Guinea. In: Furtado, J. I., ed. *Tropical ecology and development: Proceedings of the 5th International Symposium of Tropical Ecology, Kuala Lumpur, Apr. 16-21, 1979*. Kuala Lumpur, International Society of Tropical Ecology. Vol. 1, pp. 55-63.
Discusses the ecological and social consequences of large scale pulpwood logging operations in the Gogol Valley in the 1970s.
- 1347 Lamb, F. B., 1966.** Marketing and utilization of tropical forest products. In: *Proceedings of the Sixth World Forestry Congress, Madrid, 1966*. Vol. 3, pp. 3098-3104.
- 1348 Lau Buong Tiing, 1974.** Mixed hardwood forests and the continuity of timber supply in Central Sarawak. *Malaysian Forester* 37(4):233-243.
- 1349 Laurent, D., 1985.** Indonesian Merantis: Where do you come from and how are you harvested? *Bois et Forets des Tropiques* 210:111-130.
The author begins with an overview of the importance of Indonesia in geographical and economic terms and briefly describes the development of forest production, timber industry and trade over the last 20 years. He also reviews the objectives of Indonesian policy regarding the development of forestry production, timber processing and the timber trade.

- 1350 Lembke, H. H., 1980.** Problems of the world tropical timber market. *Economics* 21:116-135.
Discusses the problem of fluctuations in demand, price, and returns in the tropical timber market.
- 1351 Leslie, A. J., 1968.** Tropical forestry and economic development. *Commonwealth Forestry Review* 47(1):40-51.
Discusses the role of forestry and forest products industries in the economic advancement of developing countries.
- 1352 Lew, W. H. and Salleh, M. N., 1988.** Malaysia: A responsible supplier of tropical timber products. In: McDermott, M. J., ed. *The future of the tropical rain forest: Proceedings of an international conference, Oxford, June 27-28, 1988.* Oxford, Oxford Forestry Institute. pp. 44-51.
The authors conclude that "although large tracts of forests in Malaysia have been opened up for logging and downstream log-processing activities, this move has been accompanied by strong governmental regulation over the forest industries." (p. 50)
- 1353 Lindsay, H., 1989.** The Indonesian log export ban: An estimation of foregone export earnings. *Bulletin of Indonesian Economic Studies* 25(2):111-123.
This paper "examines the economic impact of the Indonesian phased log export ban from 1981 to 1986, by means of a counterfactual analysis which permits the calculation of hypothetical export revenues under the assumption that the log export ban was not implemented." (p. 111)
- 1354 Lohmann, L., 1990.** Commercial tree plantations in Thailand: Deforestation by any other name. *Ecologist* 20(1):9-17.
Discusses the displacement of peasants from their land, and the deforestation resulting from large-scale industrial afforestation schemes in Thailand.
- 1355 Long, A. and Johnson, N., 1981.** Forest plantations in Kalimantan, Indonesia. In: Mergen, F., ed. *International symposium on tropical forests utilization and conservation: Ecological, sociopolitical and economic problems and potentials.* New Haven, CT, Yale University School of Forestry and Environmental Studies. pp. 77-92.
The authors discuss "the political, social and biological necessity for forest plantations, and the benefits which accrue to organizations involved in large-scale plantation programs." (p. 79)
- 1356 Manning, C., 1971.** The timber boom with special reference to East Kalimantan. *Bulletin of Indonesian Economic Studies* 7(3):30-60.
- 1357 Marshall, G., 1990.** The political economy of logging: The Barnett Inquiry into corruption in the Papua New Guinea timber industry. *Ecologist* 20(5):174-181.
Discusses the findings of the Commission of Inquiry set up in 1987 to investigate the operations of the timber industry in Papua New Guinea.

- 1358 Maydell, H. J. von, 1975.** Effective policies for stimulating investment in forestry and forest industries in countries with tropical forest. In: Tropical moist forest. *Mitteilungen der Bundesforschungsanstalt für Forst und Holzwirtschaft* 109:129-141.
A background paper prepared for an FAO technical conference on the tropical moist forest, planned to take place in 1975, but not held.
- 1359 McGaughey, S. E. and Gregersen, H. M., editors, 1983.** Forest-based development in Latin America: An analysis of investment opportunities and financing needs. Washington, DC, Inter-American Development Bank. 215 pp.
Includes reports presented at a regional conference sponsored by the Inter-American Development Bank at the Bank's headquarters, June 22-25, 1982.
- 1360 McGaughey, S. E., 1983.** Investment strategy for forest sector development in Latin America. In: Proceedings of the 1982 Convention of the Society of American Foresters, Cincinnati, Ohio, 1982. [Bethesda, MD] Society of American Foresters. pp. 272-275.
- 1361 McNeil, D. L., 1981.** Tropical forest industries: A transnational corporation view. *Commonwealth Forestry Review* 60(2):105-112.
Excerpts from a paper presented at the UN workshop in Pattaya, Thailand, August, 1990, on negotiations with transnational corporations in the tropical hardwoods sector.
- 1362 Meijenfeldt, C. F. W. M. von, 1989.** The use of and alternatives for tropical hardwood in the Netherlands. *Netherlands Review of Development Studies* 2:95-104.
The imports and end-uses of tropical hardwood in the Netherlands are analyzed. Some measures to counteract the negative ecological effects of using tropical hardwoods are proposed.
- 1363 Mercado, R. S., 1980.** Timber production and marketing in the Brazilian Amazon. Ph.D. Thesis, Michigan State University; Ann Arbor, MI, University Microfilms International. 131 pp.
"This study summarizes the results of a 1979 field investigation of the economic characteristics of the lumber, plywood and veneer industries in the Amazon region and the efficiency of marketing procedures in these industries." (abst.)
- 1364 Mery, G., 1987.** Latin American forest sector development: A short-term review and prospects. In: Palo, M. and Salmi, J., eds. *Deforestation or development in the Third World? Metsäntutkimuslaitoksen Tiedonantoja* 272:143-219.
Discusses Latin America forest resources in 1980 and trends in production, consumption, and external trade of forest products during the last 20 years.
- 1365 Meulenhoff, M., 1986.** Indonesia as a lumber exporter. In: Schreuder, G. F., ed. *World trade in forest products, 2.* Seattle, University of Washington Press. pp. 197-206.
- 1366 Morrell, A. V., 1991.** The International Tropical Timber Organisation, its origins and objectives. *Journal of the Institute of Wood Science* 12(3):169-176.

- 1367 Murakami, E., 1987.** Future trends for the forest industry in Brazil. In: Proceedings of the Symposium on the Co-operation of Forestry Between Finland and Brazil, Aug. 1987. Metsantutkimuslaitoksen Tiedonantoja 273:101-115.
- 1368 Myers, N., 1981.** Corporate destruction of tropical forests. *Business and Society Review* 36:9-13.
"Among the agents responsible for inappropriate and excessive exploitation are commercial timber harvesters." (p. 9) The author suggests methods by which corporations could be persuaded or required to be more careful in their harvesting techniques.
- 1369 Myers, N., 1990.** Natural resource-based export initiatives in Central America and the Caribbean. Washington, DC, Commission for the Study of International Migration and Cooperative Economic Development, Working Papers no. 15. 26 pp.
This paper explores options to stimulate the growth of exports of agricultural and forestry products that can be harvested sustainably.
- 1370 Myers, N., 1980.** Preservation and production: Multinational timber corporations and tropical moist forests. New York, Council on Economic Priorities Newsletter, Sept. 1980. [6] pp.
The author cites commercial timber harvesters as among the agents responsible for "inappropriate and excessive exploitation" of tropical moist forests.
- 1371 Nahuz, M. A. R., 1984.** Incentives and restraints on trade of forest products: Policy and law from a Brazilian perspective. In: Lortie, M., ed. Forest resources management - The influence of policy and law: Speeches and papers [presented at] International Forest Congress, Quebec City, Aug. 1984. pp. 82-86.
The author outlines Brazil's resources, trade patterns, and the effects of law and policy on its performance as a timber supplier.
- 1372 Nascimento, J. R., 1985.** Brazilian Amazon development and the forest-based sector. Ph.D. thesis, University of Minnesota. 2 vols., 565 pp.
Includes sections on the Amazonian ecosystem; the Amazonian sociosystem from the arrival of Europeans in Brazil to the present; and on the forest based sector and the development of Amazonia.
- 1373 Nectoux, F. and Dudley, N., 1987.** A hard wood story: An investigation into the European influence on tropical forest loss. London, Friends of the Earth. 118 pp.
Focuses on the link between the European timber trade, Western aid programs, and tropical deforestation.
- 1374 Nectoux, F. and Kuroda, Y., 1990.** Timber from the South Seas: An analysis of Japan's tropical timber trade and its environmental impact. Gland, Switzerland, WWF International. 134 pp.
- 1375 Nelson, M., 1973.** The development of tropical lands: Policy issues in Latin America. Baltimore, Johns Hopkins University Press. 306 pp.
"This study is an examination of the economic basis underlying investment and policy for the development of new lands for agriculture and forestry in Latin America."
(p. 1)

- 1376 Noack, D., 1965.** Wood industry in tropical areas. *Commonwealth Forestry Review* 44(1):21-23.
 Paper presented at the international seminar on "Development of Forestry in Tropical Countries" of the German Foundation for Developing Countries in Berlin in 1964.
- 1377 Nwokeabia, O. D., 1988.** Problems of production and marketing of wood and wood products in Nigeria. In: Reports on the proceedings of the National Conference on Rubber, Wood and Wood Products, Benin City, Feb. 1987. [Abuja, Nigerian Exports Promotion Council.] pp. 15-22.
- 1378 Oldeman, R. A. A., editor, 1982.** Tropical hardwood utilization: Practice and prospects. The Hague, Martinus Nijhoff. 584 pp.
 "The tropical hardwood situation can best be understood as a socio-economic chain, with the resource base at one end, the consumer community at the other and everything that has to do with the market in the middle." (p. xv).
- 1379 Ooi Jin Bee, 1990.** The tropical rain forest: Patterns of exploitation and trade. *Singapore Journal of Tropical Geography* 11(2):117-142.
 This article examines the changing patterns of trade in forest products from trade in "minor" forest products to the timber trade.
- 1380 Organisation Africaine du Bois, 1991.** [Sustained forest logging as a prerequisite to tropical forest conservation and management in Africa.] In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area F, Part 1. *Revue Forestiere Francaise, Hors Serie no. 7.* pp. 200-208.
 In French.
- 1381 Page, J. M., Jr., 1974.** The timber industry and Ghanaian development. In: Pearson, S. R. and Cownie, J., eds. *Commodity exports and African economic development.* Lexington, MA, D.C. Heath. pp. 91-116.
 Gives a brief history of timber exploitation in Ghana, discusses the timber resource, export market for Ghanaian hardwoods, and the future expansion of the industry.
- 1382 Palmer, J. R., 1991.** Jari: Lessons for land managers in the tropics. In: Gomez-Pompa, A. et al., eds. *Rain forest regeneration and management.* Paris, Unesco; Park Ridge, NJ, Parthenon Publishing Group. *Man and the Biosphere Series. Vol. 6,* pp. 419-429.
 The author recounts some of the successes and failures of Jari Florestal e Agropecuaria Ltda.
- 1383 Parthama, I. B. P. and Vincent, J., 1992.** United States demand for Indonesian plywood. *Bulletin of Indonesian Economic Studies* 28(1):101-112.
 The results of this research "suggest that Indonesia's rapid expansion into the US plywood market has been due primarily to its low plywood prices, and that attempts to raise prices relative to those of competing export regions would result in significant reductions in market share." (p. 101)

- 1384 Permanent Committee on Reforestation and Forest Management, 1990.** ITTO guidelines for the sustainable management of natural tropical forests. Permanent Committee on Reforestation and Forest Management, 6th Session, Denpasar, Bali, Indonesia, May 16-23, 1990. 19 pp.
 "These guidelines contain a set of principles which constitutes the international reference standard established by ITTO [International Tropical Timber Organization]... for the sustainable management of natural tropical forests for timber production." (p. 1)
- 1385 Permanent Committee on Reforestation and Forest Management, 1990.** Report of the working group on guidelines for "best practice" and sustainability in the sustainable management of tropical forests with particular application to the natural forests. Permanent Committee on Reforestation and Forest Management, 6th Session, Denpasar, Bali, Indonesia, May 16-23, 1990. 32 pp.
 Recommendations to the International Tropical Timber Organization and to producer countries of ITTO.
- 1386 Pleydell, G. J., 1978.** Some factors influencing the growth of tropical forest industries. In: Proceedings of the Eighth World Forestry Congress, Jakarta, Oct. 1978. Vol. V, pp. 1391-1399.
- 1387 Plotkin, M. J., 1979.** Deforestation and the Trans-Amazon highway system. In: Proceedings of the Second Yale Student Symposium on Timber Harvesting, Transportation, and Utilization. New Haven, Yale University, School of Forestry and Environmental Studies. pp. 112-123.
 Discusses the effect that the construction of the Trans-Amazon highway system had on deforestation in Brazil.
- 1388 Plumptre, R. A. and Earl, D. E., 1986.** Integrating small industries with management of tropical forest for improved utilisation and higher future productivity. *Journal of World Forest Resource Management* 2(1):43-55.
 "Techniques developed in Uganda and Ghana are described by which small industries such as charcoal making, fuelwood production and mobile sawmilling were used to increase utilisation of moist tropical forest." (p. 43)
- 1389 Preston, S. B., 1970.** The role of research and its effective use in expanding the market for tropical hardwoods. In: Food and Agriculture Organization. Report of the second session of the FAO Committee on Forest Development in the Tropics, Rome, Oct. 21-24, 1969. Rome, FAO, FO:FDT-69 Rep. pp. 103-118.
- 1390 Priasukmana, S., 1986.** The trade and investment opportunities of the forestry sector in East Kalimantan. In: Schreuder, G. F., ed. *World trade in forest products*, 2. Seattle, University of Washington Press. pp. 207-223.

- 1391 Price, C., 1991.** Do high discount rates destroy tropical forests? *Journal of Agricultural Economics* 42(1):77-85.
 "This paper shows that lowering the social discount rate may not in itself favour forest conservation. It argues for more sensitive evaluation of the intertemporal effects of logging than can be achieved by gross adjustments of the discount rate." (p. 77)
- 1392 Pringle, S. L., 1979.** The outlook for tropical wood imports: A view of the world situation with emphasis on trade with the United States. *Unasylva* 31(125):10-18.
- 1393 Pringle, S. L., 1976.** The role of the tropical moist forests in world demand, supply and trade of forest products. [Rome] Food and Agriculture Organization, Committee on Forest Development in the Tropics, 4th session, Rome, Nov. 15-20, 1976. FO:FDT/76/10(a). 22 pp.
- 1394 Pringle, S. L., 1974.** Tropical hardwood products: World summary of trends and prospects in demand, supply and trade. In: *Properties, uses and marketing of tropical timber*, Berlin, June 25-July 7, 1973. Berlin, German Foundation for International Development; Rome, FAO. DSE III-IT 8/73; FO:MISC/74/7. Vol. 2, pp. 85-90.
- 1395 Pringle, S. L., 1976.** Tropical moist forests in world demand, supply and trade. *Unasylva* 28(112/113):106-118.
- 1396 Radzuan, R. A., 1977.** The economic viability of the Malaysian timber industry: An overview. In: Sastry, C. B., et al., eds. *A new era in Malaysian forestry*. Serdang, Selangor, Malaysia, Universiti Pertanian Malaysia. pp. 125-138.
- 1397 Rauscher, M., 1990.** Can cartelisation solve the problem of tropical deforestation? *Weltwirtschaftliches Archiv: Review of World Economics* 126(2):378-387.
 The author discusses the cartelisation of timber exports, i.e., the formation of a cartel by the timber exporting countries. He concludes that this would have "a considerable resource-conserving effect" and that the exporting countries would profit from higher prices.
- 1398 Reisman, C. G., 1979.** Industrial forestry in the tropics: Jari-Brazil. In: *Proceedings of the Second Yale Student Symposium on Timber Harvesting, Transportation, and Utilization*. New Haven, Yale University, School of Forestry and Environmental Studies. pp. 100-111.
- 1399 Repetto, R. et al., 1989.** Wasting assets: Natural resources in the national income accounts. Washington, DC, World Resources Institute. 68 pp.
 Includes a section on valuation of Indonesia's timber. Co-authors are: W. Magrath, M. Wells, C. Beer, and F. Rossini.

1400 Reyes, M. R., 1984. Suitability of the Philippine dipterocarp forest for continuous watershed cover and wood production. In: Velasco, A. B. et al., eds. *Proceeding of the First ASEAN Forestry Congress, Manila, Oct. 10-15, 1983.* Quezon City, Philippines, Bureau of Forest Development. Vol. 2, pp. 425-447.

The author argues for conservation of the remaining dipterocarp forest of the Philippines. He advocates the use of agroforestry, industrial tree plantations, and selective logging as conservation methods to be used.

1401 Reynaud, J. F., 1991. [Problems relating to timber supply.] *Bois et Forets des Tropiques* 229:79-84.

Discusses the timber industry in Reunion. In French, with English summary.

1402 Roselle, M. and Katelman, T., 1989. Tropical hardwoods: A report on the U.S. role in the international tropical hardwood trade and the non-timber economic alternatives. San Francisco, Rainforest Action Network. 35 pp.

The authors contend that rainforest destruction is tantamount to genocide in that tribal peoples are being driven from their forest homes. They urge a ban on all tropical hardwood imports into the United States, and they urge U.S. consumers to boycott tropical hardwoods.

1403 Ross, M. S., 1984. How much production forest land should Indonesia plan to keep? In: Velasco, A. B. et al., eds. *Proceedings of the First ASEAN Forestry Congress, Manila, Oct. 10-15, 1983.* Quezon City, Philippines, Bureau of Forest Development. Vol. 2, pp. 342-384.

This paper discusses "the factors influencing the area of land required for forest industries with particular mention of population. Increase in population increases not only demand for land but for wood as well." (p. 342)

1404 Routley, R. and Routley, V., 1977. Destructive forestry in Australia and Melanesia. In: Winslow, J. H., ed. *The Melanesian environment.* Canberra, Australian National University Press. pp. 374-397.

The authors conclude that a first requirement for a solution to the problem of destructive forestry in the tropics is "to sever the industrial connection, to alter the industrial determination and accompanying assembly line methods of accepted forestry planning and practices." (p. 394)

1405 Russell, C. E., 1987. Plantation forestry. Case study no. 9: The Jari Project, Para, Brazil. In: Jordan, C. F., ed. *Amazonian rain forests: Ecosystem disturbance and recovery.* New York, Springer-Verlag. *Ecological Studies.* Vol. 60, pp. 76-89.

1406 Ruzicka, I., 1979. Rent appropriation in Indonesian logging: East Kalimantan, 1972/3-1976/7. *Bulletin of Indonesian Economic Studies* 15(2):45-74.

This paper discusses estimates of the resource rent generated in the course of timber exploitation in East Kalimantan from 1972/73-1976/77.

1407 Sadikin, D., 1979. The utilization of tropical hardwood from Indonesia. In: Shepherd, K. R. and Richter, H. V., eds. *Forestry in national development: Production systems, conservation, foreign trade and aid.* Canberra, Australian National University, Development Studies Centre, Monograph no. 17. pp. 164-176.

- 1408 Salleh, M. N. and Ho, K. S., 1982.** The myth of complete utilization of tropical forests. In: Srivastava, P. B. L., ed. *Tropical forests: Source of energy through optimisation and diversification*. Serdang, Selangor, Malaysia, Penerbit Universiti Pertanian Malaysia. pp. 101-106.
The author states that "in spite of the high demand for tropical timber and the diminishing area of forests, logging is extremely selective and utilisation very low." (p. 101)
- 1409 Salo, T., 1989.** Study on export possibilities of mechanical forest industry products from selected eastern and southern African countries. University of Helsinki, Dept. of Silviculture, *Tropical Forestry Reports no. 2*. 117 pp.
"The scope of this study was to compare mechanical forest industries in Kenya, Malawi, Tanzania, Zambia and Zimbabwe, and to assess the export possibilities of mechanical forest industry products... from these countries mainly to countries in the PTA region." (p. 7)
- 1410 Sanvictores, J. G., Jr., 1991.** Sustainable management of the Philippine dipterocarp forests: The experience of the Aras-Asan Timber Co., Inc. *Philippine Lumberman* 37(3):8-10.
- 1411 Sarawak Study Group, 1989.** Logging in Sarawak: The Belaga experience. In: *Logging against the natives of Sarawak*. Selangor, Malaysia, Institute of Social Analysis. pp. 1-28.
The authors examine the development of the logging industry in the district of Belaga in the interior of Sarawak and discuss the destructive long-term impact of logging on the natural environment. The authors conclude that the rights of rural communities in Sarawak need to be safeguarded and that rural people should receive a portion of the wealth generated from their forests.
- 1412 Sarawak Timber Industry Development Corporation, 1984.** Guide to timber trade Sarawak 84-85. Second edition. Kuching, Sarawak Timber Industry Development Corporation. 135 pp.
Includes a list of exporters and manufacturers of timber and timber products, and provides statistics on exports.
- 1413 Schirmer, I. and Buongiorno, J., 1985.** [Contribution to the elaboration of a model of international trade of tropical logs.] *Bois et Forets des Tropiques* 20:65-79.
In French, with summaries in English and Spanish. Models of the trade of tropical logs are presented for two regions: Africa Europe and Asia-Pacific.
- 1414 Schlabrendorff, F. von, 1987.** The legal structure of transnational forest-based investments in developing countries: A comparative study of the contractual practice in selected host countries of the tropical Asia-Pacific region. Zurich, ETH Zurich, *Forstwissenschaftliche Beitrage no. 5*. 337 pp.
"The book's six chapters deal with the structure of the forest-based industries in the Asia-Pacific region, the economic and legal concepts relevant to transnational timber industry ventures, forestry management regulations, as well as investment regulations concerning the integration of forestry projects in national economic development.

- 1415 Schmink, M., 1988.** Big business in the Amazon. In: Denslow, J. S. and Padoch, C., eds. *People of the tropical rain forest*. Berkeley, University of California Press. pp. 163-174.
Discusses the Fordlandia (Henry Ford's rubber plantation) and Jari business ventures in the Amazon and follows with a discussion of present and future business ventures. The author concludes that "sustained economic performance will depend on minimizing damage to the environment...." (p. 174)
- 1416 Schmithusen, F., 1990.** Economic research issues related to fiscal policies on tropical forest resource utilisation. In: Whitby, M. C. and Dawson, P. J., eds. *Land use for agriculture, forestry, and rural development: Proceedings of the 20th Symposium of the European Assoc. of Agricultural Economists, July 4-7, 1989*. Newcastle upon Tyne, The University. pp. 293-306.
"A system approach is proposed which combines research on the effects of fiscal policies on the utilisation and processing of available raw materials as well as on their impact on land management, sustained forest production and environmental conservation." (p. 293)
- 1417 Schmithusen, F., 1976.** Forest utilization contracts on public land in the tropics. *Unasylva* 28(112/113):52-73.
Forest utilization contracts, or concessions, include all forms of legal arrangements which convey to an individual or a company the right to explore the forest potential, to cut and remove commercial timber, and/or to manage forest land for a continuous raw material supply. (p. 52)
- 1418 Schmithusen, F., 1976.** Forest utilization contracts on public land in the humid tropics: Experiences, problems, and trends. [Rome] Food and Agriculture Organization, Committee on Forest Development in the Tropics, 4th session, Rome, Nov. 15-20, 1976. FO:FDT/76/5/c. 29 pp.
Forest utilization contracts, also known as concessions, comprise all forms of legal arrangements which convey to a company or individual the right to explore the forest potential, to cut and remove commercial timber, and/or to manage forest land for a continuous raw material supply.
- 1419 Schreuder, G. F. and Vlosky, R. P., 1985.** Indonesia forest products sector and trade profile. University of Washington, Center for International Trade in Forest Products, Working Paper no. 4. 86 pp.
Discusses Indonesia's forest resources, imports and exports of forest products, and foreign investment opportunities.
- 1420 Schreuder, G. F. and Vlosky, R. P., 1986.** Indonesia as an exporter and importer of forest products. In: Schreuder, G. F., ed. *World trade in forest products, 2*. Seattle, University of Washington Press. pp. 168-190.
- 1421 Schwartzman, S., 1986.** Bankrolling disasters: International development banks and the global environment. San Francisco, Sierra Club. 32 pp.
"A citizens' environmental guide to the World Bank and the regional multilateral development banks." This guide describes the structure of the MDBs, discusses some of the negative environmental and social effects of MDB projects, and explains how the decisions of the MDBs can be influenced.

- 1422 Secrett, C., 1987.** How European transnational corporations and government control exploit 3rd world resources. In: *Proceedings of the Conference on Forest Resources Crisis in the Third World*, Penang, Malaysia, Sept. 6-8, 1986. Penang, Sahabat Alam Malaysia. pp. 233-249.
Discusses the position of Europe in the tropical timber trade.
- 1423 Secrett, C., 1987.** The role of the Overseas Development Bank, Commonwealth Development Corporation and other European multi-lateral aid agencies in 3rd world deforestation. In: *Proceedings of the Conference on Forest Resources Crisis in the Third World*, Penang, Malaysia, Sept. 6-8, 1986. Penang, Sahabat Alam Malaysia. pp. 298-338.
Details European aid investments in the forestry sector of the Third World.
- 1424 Sedjo, R. A., 1986.** Forest plantations of the tropics and Southern Hemisphere and their implications for the economics of temperate climate forestry. In: Kallio, M. et al., eds. *Systems analysis in forestry and forest industries*. New York, Elsevier. pp. 55-69.
"A broad conceptual framework for explaining many of the fundamental changes that are occurring in the nature of the world's forest resources is developed. Within this context, the role of the industrial forest plantation is analysed." (p. 55)
- 1425 Sedjo, R. A., 1984.** Industrial forest plantations: An economic assessment. In: Wiersum, K. F., ed. *Strategies and designs for afforestation, reforestation and tree planting*. Wageningen, Pudoc. pp. 286-300.
Examines the comparative economics of industrial forest plantations in twelve regions of the world; nine of the regions are in the tropics and Southern Hemisphere.
- 1426 Sedjo, R. A., 1988.** Native forests, secondary species, plantation forests and the sustainability of Indonesia's forest industry. Report submitted to FAO/UNDP project INS/83/019, "Assistance to forestry sector development planning." Mimeo. 25 pp.
"This study examines the role of native virgin, logged-over and plantation forests in meeting current and future industrial wood needs of Indonesia. A focus is on the role in timber production of the various forests today, and into the future." (p. 1)
- 1427 Senada, D. A., 1977.** The role of forestry in the socio-economic development of rural Sarawak. *Malaysian Forester* 40(1):2-13.
Makes recommendations of ways in which the timber industries can benefit rural people. Suggests that cottage industries should be encouraged in rural areas.
- 1428 Silva, J. N. M., Carvalho, J. O. P. de, and Lopes, J. do C. A., 1989.** Growth of a logged-over tropical rain forest of the Brazilian Amazon. In: *Proceedings of the Seminar on Growth and Yield in Tropical Mixed/Moist Forests*, Kuala Lumpur, June 20-24, 1988. Kuala Lumpur, Forest Research Institute, Malaysia. pp. 117-136.
- 1429 Sinduredjo, K., 1986.** Indonesia as a plywood exporter. In: Schreuder, G. F., ed. *World trade in forest products, 2*. Seattle, University of Washington Press. pp. 191-196.

- 1430 Singham, S. S., 1984.** An effective strategy for timber resources utilization in the ASEAN region with special reference to Peninsular Malaysia. In: Velasco, A. B. et al., eds. *Proceedings of the First ASEAN Forestry Congress, Manila, Oct. 10-15, 1983.* Quezon City, Philippines, Bureau of Forest Development. Vol. 2, pp. 559-566.
The rate of forest harvesting (and deforestation) can be significantly reduced if technologies are developed to make fuller use of timber resources.
- 1431 Stadelman, R. C., 1982.** The United States market for tropical hardwoods. In: Oldeman, R. A. A., ed. *Tropical hardwood utilization: Practice and prospects.* The Hague, Martinus Nijhoff. pp. 249-258.
- 1432 Stahelin, R. and Everard, W. P., 1964.** Forests and forest industries of Brazil. U.S. Forest Service, Forest Resource Report no. 16. 50 pp.
- 1433 Streyffert, T., 1965.** Marketing and utilization. In: *Proceedings of the Duke University Tropical Forestry Symposium, Durham, NC, Apr. 21-26, 1965.* Duke University School of Forestry, Bulletin no. 18. pp. 47-77.
- 1434 Streyffert, T., 1972.** The tropical rain forest: Analysis of trends and prospects of yield and export of forest products. Paper presented at Study Week on Intertropical Problems, Faculte des Sciences Agronomiques de l'Etat Gembloux, September 1972. Mimeo. 11 pp. + appendix.
- 1435 Suchek, V. I., 1991.** The role of the planted forest in the pulp and paper industry in Brazil. *Forestry Chronicle* 67(6):636-648.
The author, development director of Jaakko Pöyry Eng. Ltd. in Sao Paulo, Brazil, discusses the contribution of planted forests to the development of the pulp and paper industry in Brazil.
- 1436 Suparto, R. S. et al., editors, 1978.** *Proceedings of the Symposium on the Long-Term Effects of Logging in Southeast Asia, Darmaga, Bogor, Indonesia, June 24-27, 1975.* Bogor, BIOTROP, SEAMEO Regional Center for Tropical Biology, BIOTROP Special Publication no. 3. 177 pp.
The purpose of the symposium was to provide governments and private companies involved in logging with information and recommendations concerning "safe and proper forest utilization."
- 1437 Svanqvist, N. H., 1992.** The timber industry perspective. In: Downing, T. E. et al., eds. *Development or destruction: The conversion of tropical forest to pasture in Latin America.* Boulder, Westview Press. pp. 317-330.
The conclusion is that the conversion of forests into pasture for cattle "is likely to have a disturbing effect on the global timber supply...." (p. 329)
- 1438 Takeuchi, K., 1983.** Market prospects for tropical hardwoods from Southeast Asia. In: Bethel, J. S., ed. *World trade in forest products.* Seattle, University of Washington Press. pp. 432-446.

- 1439 Takeuchi, K., 1983.** Mechanical processing of tropical hardwoods in developing countries: Issues and prospects for the plywood industry's development in the Asia-Pacific region. In: Case studies on industrial processing of primary products. Vol. I: Bauxite, rubber, tropical hardwood. Washington, DC, World Bank. pp. 215-364.
Discusses patterns of trade flows in tropical hardwood, market structure, and prices. Examines the issues related to, and the prospects for, the growth of local processing of tropical hardwood in log-producing areas.
- 1440 Takeuchi, K., 1982.** Mechanical processing of tropical hardwood in developing countries: Issues and prospects of plywood industry development in the Asia-Pacific region. [Washington, DC] World Bank, Commodities and Export Projections Division, Economic Analysis and Projections Dept., Development Policy Staff, Division Working Paper No. 1982-1. 138 pp.
"This report examines the issues related to, and the prospects for, the growth of local processing of tropical hardwood in log-producing areas." (p. x)
- 1441 Takeuchi, K., 1974.** Tropical hardwood trade in the Asia-Pacific Region. Washington, DC, World Bank, World Bank Staff Occasional Papers no. 17. 90 pp.
The purpose of the paper is to highlight some policy issues facing tropical hardwood trade in the Asia-Pacific region.
- 1442 Thang, H. C., 1985.** Timber supply and domestic demand in Peninsular Malaysia. *Malaysian Forester* 48(2):87-100.
Provides a preliminary forecast on roundwood production and domestic demand to 2010.
- 1443 Tho Yow Pong and Salleh, M. N., 1988.** Future wood supplies and utilisation from non-traditional wood sources. In: Tang, H. T. et al., eds. Future role of forest plantations in the national economy and incentives required to encourage investments in forest plantation development. Kota Kinabalu, Sabah-World Bank For. Tech. Assist. Proj.; TROPENBOS. pp. 61-67.
Among the nontraditional wood sources discussed are rubberwood and oil-palm.
- 1444 Thomas, C. and Waggener, T. R., 1987.** Malaysia forest products sector and trade profile. University of Washington, College of Forest Resources, CINTRAFOR Working Paper no. 12. 100 pp.
- 1445 Tosi, J. A., Jr., 1991.** Integrated sustained yield management of primary tropical wet forests: A pilot project in the Peruvian Amazon. In: Proceedings of the Humid Tropical Lowlands Conference: Development strategies and natural resource management, Panama City, June 1991. Vol. III. Bethesda, MD, Development Strategies for Fragile Lands. pp. 47-64.
A case study of the Yanasha Forestry Cooperative located in the Palcazu Valley of Amazonian Peru. The cooperative has managed to survive despite an uncompleted plant, inadequate transport and road maintenance capabilities, and a lack of working capital, in an environment of severe national economic recession, threat of insurgency attacks, and cocaine trafficking.

- 1446 Tripartite Tech. Meeting for the Timber Industry, 3rd, Geneva, 1981.** General report. Geneva, International Labour Office, International Labour Organisation, Programme of Industrial Activities, Report no. 1. 159 pp.
Includes information relating to markets for tropical hardwoods.
- 1447 Tropical Forest Foundation, 1991.** CITES and the tropical timber trade. Alexandria, VA, Tropical Forest Foundation, Bulletin no. 3. 1 p.
Discusses the role of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in the conservation of tropical timber species.
- 1448 Tropical Forest Foundation, 1991.** Should you boycott tropical woods? Alexandria, VA, Tropical Forest Foundation, Bulletin no. 1. [2] pp.
- 1449 Tropical Forest Foundation, 1992.** World trade in tropical timber and U.S.A. role. Alexandria, VA, Tropical Forest Foundation, Bulletin no. 4. [2] pp.
- 1450 Tropical Forestry Workshop, 1989, 1990.** Consensus statement on commercial forestry, sustained yield management and tropical forests. Alexandria, VA, International Hardwood Products Association. 10 pp.
The workshop was co-sponsored by the Smithsonian Institution and the IHPA, and held at the Smithsonian in Washington, D.C.
- 1451 Turbang, J. and Hegel, D. von, 1969.** Development of forestry and forest industries in Asia. In: Asian Development Bank. Asian agricultural survey. [Seattle] University of Washington Press. pp. 445-511.
Includes information on forest policy and development, forestry investment, and production and trade in forest products.
- 1452 U.S. Congress, 1989.** The tropical timber industry in Sarawak, Malaysia: Report of a Congressional Staff Study Mission to Malaysia, Mar. 25-Apr. 2, 1989, to the Comm. on Foreign Affairs, U.S. House of Rep. U.S. Congress, 101st, 1st Session, Committee Print. 36 pp.
- 1453 U.S. International Trade Administration, 1985.** Developing competitive markets in forest products: Brazil. U.S. Dept. of Commerce, International Trade Administration. 45 pp.
A market study of the Brazilian forest products industry.
- 1454 Uhl, C. et al., 1991.** Social, economic, and ecological consequences of selective logging in an Amazon frontier: The case of Tailandia. *Forest Ecology and Management* 46(3-4):243-273.
The purpose of this paper is to examine the dynamics of logging in a frontier region of Para state in eastern Amazonia. The authors consider the agents involved in logging and the economic and social significance of this activity for them. Co-authors are: A. Verissimo, M. M. Mattos, Z. Brandino, and I. C. G. Vieira.
- 1455 Union pour le Commerce des Bois Tropicaux dans la CEE, 1982.** Characteristic features of individual markets for tropical hardwoods in Europe. In: Oldeman, R. A. A., ed. *Tropical hardwood utilization: Practice and prospects.* The Hague, Martinus Nijhoff. pp. 259-286.

- 1456 United Nations, 1984.** International Tropical Timber Agreement, 1983. New York, United Nations, TD/TIMBER/11/Rev.1. 20 pp.
 "The main objective of the Agreement is to provide an effective framework for cooperation and consultation between tropical timber producing and consuming countries with regard to all relevant aspects of the tropical timber economy." (p. 2)
- 1457 Vakomies, P. J., 1976.** Technical and socio-economic factors and policy considerations influencing the structure, size and location of forest industries based upon: tropical moist forests. [Rome] Food and Agriculture Organization, Committee on Forest Development in the Tropics, 4th session, Rome, Nov. 15-20, 1976. FO:FDT/76/9(b). 3 pp.
- 1458 Vanclay, J. and Preston, R., 1989.** Sustainable timber harvesting in the rainforests of north Queensland. In: Forest planning for people: Proceedings 13th biennial conference of the Institute of Foresters of Australia, Leura, NSW, Sept. 18-22, 1989. Sydney, Institute of Foresters of Australia. pp. 181-191.
 "Simulation studies for an area of rainforest in north Queensland indicate that selection harvesting can provide a viable timber harvest in perpetuity." (p. 181)
- 1459 Vanclay, J. K., 1990.** Effects of selection logging on rainforest productivity. *Australian Forestry* 53(3):200-214.
 "An analysis of data from 212 permanent plots provided no evidence of any decline in rainforest productivity after three cycles of selection logging in the tropical rainforests of north Queensland." (p. 200)
- 1460 Vanclay, J. K., Rudder, E. J., Dale, G., and Blake, G. A., 1991.** Sustainable harvesting of tropical rainforests: Reply to Keto, Scott and Olsen. *Journal of Environmental Management* 33(4):379-394.
 "This paper refutes the Keto et al. proposition that the Queensland selection logging system is neither ecologically nor economically sustainable." (p. 379)
- 1461 Vantomme, P., 1991.** The timber potential from the Brazilian Amazon. *Bois et Forêts des Tropiques* 227:69-74.
 "Suggestions are made for a better export valorization of the Amazon timber potential by directing promotion efforts to special geographic areas, specific market 'gaps', and by exporting a 'product' instead of sawn lumber from a 'species'." (p. 70)
- 1462 Vincent, J. R., 1990.** Don't boycott tropical timber. *Journal of Forestry* 88(4):56.
 The author advocates supporting efforts "that reinforce the development-conservation link," rather than boycotting tropical timber.
- 1463 Vincent, J. R., 1986.** Growth of the forest products industry in Malaysia: 1961-1985. *Malaysian Forester* 49(3):223-240.
 "This paper investigates the unexpected, large growth that has occurred in the forest products industry of Malaysia during the past thirty years. Government policies are discussed." (p. 223)

- 1464 Vincent, J. R., 1989.** Optimal tariffs on intermediate and final goods: The case of tropical forest products. *Forest Science* 35(3):720-731.
 "This paper examines optimal tariffs and their associated welfare gains in the context of a static (single-region), three-region, three-product, partial equilibrium simulation model of the tropical forest products sector." (p. 721)
- 1465 Vincent, J. R., Gandapur, A. K., and Brooks, D. J., 1990.** Species substitution and tropical log imports by Japan. *Forest Science* 36(3):657-664.
 "This paper provides a quantitative analysis of the effects on tropical log demand of two economic factors: relative prices and technical change." (p. 657)
- 1466 Waggener, T. R., Schreuder, G. F., and Eastin, I. L., 1990.** Production and trade in tropical hardwoods: An Asian-Pacific case study. Trends and issues related to competition with temperate hardwoods and softwoods. University of Washington, Center for International Trade in Forest Products, CINTRAFOR Working Paper no. 29. 82 pp.
- 1467 Wassink, J. T. and Wiselius, S. I., 1980.** Aspects of marketing of tropical timber: A practical guide. Amsterdam, Royal Tropical Institute, Dept. of Agricultural Research, Bulletin no. 305. 64 pp.
 Covers the local (tropical) market and the international (export/import) market.
- 1468 Wassink, J. T., 1982.** Devastation of tropical forest through forest exploitation: Myth or reality? In: Oldeman, R. A. A., ed. *Tropical hardwood utilization: Practice and prospects*. The Hague, Martinus Nijhoff. pp. 93-95.
- 1469 Wassink, J. T., 1973.** Notes on the marketing of tropical timber: A compilation of research results and experience gained in the field of promotion of species not yet accepted on the timber market. Amsterdam, Royal Tropical Institute, Dept. of Agricultural Research. 34 pp.
- 1470 Wassink, J. T., 1978.** Some thoughts on the marketing of tropical timber. In: *Proceedings of the Eighth World Forestry Congress, Jakarta, Oct. 1978*. Vol. VI-A, pp. 197-201.
- 1471 Webb, L. J., 1977.** Ecological considerations and safeguards in the modern use of tropical lowland rain forests as a source of pulpwood: Example, the Madang area PNG. [Waigani] Papua New Guinea Dept. of Natural Resources, Office of Environment and Conservation. 36 pp.
 Includes chapters on "Man and the tropical forest," "Logging the Madang forests," and "Recommendations for management."
- 1472 Wheeler, C. D., 1981.** The risks and rewards of investments in tropical forests. In: Mergen, F., ed. *International symposium on tropical forests utilization and conservation: Ecological, sociopolitical and economic problems and potentials*. New Haven, CT, Yale University School of Forestry and Environmental Studies. pp. 67-76.
 The author discusses the risks and rewards involved in foreign investment in tropical hardwood forest harvesting and log conversion to wood products.

- 1473 White, K. J., 1977.** Constraints on developing forest industries in Papua New Guinea. In: Winslow, J. H., ed. *The Melanesian environment*. Canberra, Australian National University Press. pp. 398-406.
- 1474 White, K. J., 1976.** Planned developments in lowland rainforest in Papua New Guinea with special reference to infrastructure, mining and forestry. In: *Report of Symposium on Ecological Effects of Increasing Human Activities on Tropical and Subtropical Forest Ecosystems*, University of Papua New Guinea, Apr. 28-May 1, 1975. Canberra, Australian Govt. Publ. Service. pp. 35-49.
- 1475 Wiersum, F., 1991.** New trends in tropical forestry development policies. *BOS Nieuwsletter* 10(2):3-6.
Introduction to a special issue of the newsletter.
- 1476 Wilson, R. C., 1966.** Evaluating timber industry prospects in a tropical rain forest. In: *Proceedings of the Sixth World Forestry Congress, Madrid, 1966*. Vol. 3, pp. 3170-3175.
- 1477 Wu, S. C., 1990.** The forest operation of tropical forest in Asian Region. *Quarterly Journal of the Experimental Forest of National Taiwan University* 4(2):1-13.
Discusses the harvesting of roundwood and fuelwood in the tropical Asian Pacific basin area.
- 1478 Yakin, F., 1988.** Economic implications of large-scale forest plantations with particular reference to the Industrial Master Plan. In: Tang, H. T. et al., eds. *Future role of forest plantations in the national economy and incentives required to encourage investments in forest plantation development*. Kota Kinabalu, Sabah-World Bank For. Tech. Assist. Proj.; TROPENBOS. pp. 135-140.
Presents a brief description of Malaysia's wood-based industry.
- 1479 Yoho, J. G. and Gallegos, C. M., 1984.** Timber supply and market opportunities in Latin America. In: *International forest products trade: Resources and market opportunities*. Madison, Forest Products Research Society. pp. 45-51.
Discusses timber supply and demand for forest products in Latin America.

NONTIMBER FOREST PRODUCTS



1480 Allegretti, M. H., 1990. Extractive reserves: An alternative for reconciling development and environmental conservation in Amazonia. In: Anderson, A. B., ed. *Alternatives to deforestation: Steps toward sustainable use of the Amazon rain forest.* New York, Columbia University Press. pp. 252-264.

Extractive reserves are "public lands designated for the specific purpose of sustainable use of forest products such as rubber, Brazil nut, and palm heart by the resident population." (p. 252)

1481 Allegretti, M. H., 1992. Reconciling people and land: The prospects for sustainable extraction in the Amazon. In: Downing, T. E. et al., eds. *Development or destruction: The conversion of tropical forest to pasture in Latin America.* Boulder, Westview Press. pp. 249-254.

1482 Anderson, A. B. and Ioris, E. M., 1992. The logic of extraction: Resource management and income generation by extractive producers in the Amazon. In: Redford, K. H. and Padoch, C., eds. *Conservation of Neotropical forests: Working from traditional resource use.* New York, Columbia University Press. pp. 175-199.

Presents a case study on Combu Island in the Amazon which shows that under certain conditions, forest extraction can be economically competitive with other forms of land use.

1483 Anderson, A. B., May, P. H., and Balick, M. J., 1991. The subsidy from nature: Palm forests, peasantry, and development on an Amazon frontier. New York, Columbia University Press. 233 pp.

The authors discuss the possibilities of using the babassu palm for sustained management of the tropical forest.

1484 Anderson, A. B., 1988. Use and management of native forests dominated by acai palm (*Euterpe oleracea* Mart.) in the Amazon estuary. In: Balick, M. J., ed. *The palm - Tree of life: Biology, utilization and conservation.* Bronx, New York Botanical Garden. *Advances in Economic Botany.* Vol. 6, pp. 144-154.

The author concludes that "in-situ management of palm forests may prove to be a promising land use alternative over considerable areas of the tropics." (p. 153) This paper was presented at a symposium at the annual meeting of the Society for Economic Botany, Bronx, June 1986.

- 1485 Ashton, P. S., 1985.** Timber and minor forest product values in South East Asia. In: Davidson, J. et al., eds. *The future of tropical rain forests in South East Asia*. Gland, Switzerland, IUCN Commission on Ecology Papers no. 10. pp. 40-41.
The author argues that "demand, in national and international markets, for large consignments of forest products which are of uniform quality, conflicts with the need to maintain traditional forest goods and services expected by the villager, and with the ecological requirement of sustained production." (p. 40)
- 1486 Balick, M. J., 1987.** The economic utilization of the babassu palm: A conservation strategy for sustaining tropical forest resources. *Journal of the Washington Academy of Sciences* 77(4):215-223.
Discusses progress on research towards the improvement of the utilization of the babassu palm, including the economics of the babassu industry.
- 1487 Beer, J. H. de and McDermott, M. J., 1989.** The economic value of non-timber forest products in Southeast Asia with emphasis on Indonesia, Malaysia and Thailand. Amsterdam, Netherlands Committee for IUCN. 175 pp.
One of the principal conclusions of the study was that: "non-timber forest product extraction can represent a sustainable form of tropical forest exploitation, for which traditional forest management systems provide valuable models, and which by enhancing the value of intact forest opposes the incentives for deforestation." (p. 7)
- 1488 Brack, A., 1992.** Nontimber forest products of the Peruvian Amazon. In: Plotkin, M. and Famolare, L., eds. *Sustainable harvest and marketing of rain forest products*. Washington, DC, Island Press. pp. 90-98.
- 1489 Browder, J. O., 1992.** Social and economic constraints on the development of market-oriented extractive reserves in Amazon rain forests. *Advances in Economic Botany* 9:33-41.
"This paper examines several social and economic factors that limit the development and expansion of the 'extractive reserves model' in Amazonia...." (p. 33)
- 1490 Burman, J. J. R., 1990.** The need for reappraisal of minor forest produce policies. *Indian Journal of Social Work* 51(4):649-658.
Discusses the importance of minor forest products to forest dwellers throughout India and urges a reappraisal of forest policies related to the collection of MFP.
- 1491 Caldecott, J., 1988.** A variable management system for the hill forests of Sarawak, Malaysia. *Journal of Tropical Forest Science* 1(2):103-113.
Discusses a management system for nonwood forest products.
- 1492 Calero Hidalgo, R., 1992.** The Tagua Initiative in Ecuador: A community approach to tropical rain forest conservation and development. In: Plotkin, M. and Famolare, L., eds. *Sustainable harvest and marketing of rain forest products*. Washington, DC, Island Press. pp. 263-273.
The biodiversity of the rain forest of Esmeraldas in Ecuador is threatened by deforestation. This article discusses the Tagua Initiative, a communal effort to market the tagua palm.

- 1493 Chuntanaparb, L., Sri-Aran, P., and Hoamuangkaew, W., 1985.** Non-wood forest products in Thailand. Bangkok, [Food and Agriculture Organization] Special Study on Forest Management, Afforestation and Utilization of Forest Resources in the Developing Regions, GCP/RAS/106/JPN Field Document 5. 180 pp.
Discusses the current status and future potential of nonwood forest products in Thailand.
- 1494 Clay, J., 1992.** Buying in the forests: A new program to market sustainably collected tropical forest products protects forests and forest residents. In: Redford, K. H. and Padoch, C., eds. Conservation of Neotropical forests: Working from traditional resource use. New York, Columbia University Press. pp. 400-415.
Discusses the efforts of a nonprofit organization, Cultural Survival, based at Harvard University, to market rain forest nontimber products.
- 1495 Clay, J., 1992.** Some general principles and strategies for developing markets in North America and Europe for nontimber forest products. In: Plotkin, M. and Famolare, L., eds. Sustainable harvest and marketing of rain forest products. Washington, DC, Island Press. pp. 302-309.
- 1496 Cobban, J. L., 1968.** The traditional use of the forests in mainland Southeast Asia. Athens, OH, Ohio University Center for International Studies, Papers in International Studies, Southeast Asia Series no. 5. 23 pp.
This paper "highlights the importance of forest products in supplementing meager income and diet and providing a 'home industry' to people living at the subsistence level." (p. vii)
- 1497 Croft, J. R., 1987.** The other products from the forest. *Klinkii* 3(3):35-52.
Gives a descriptive account of nonwood forest products from the forests of Papua New Guinea.
- 1498 DeFilipps, R. A., 1992.** The history of nontimber forest products from the Guianas. In: Plotkin, M. and Famolare, L., eds. Sustainable harvest and marketing of rain forest products. Washington, DC, Island Press. pp. 73-89.
- 1499 Dhar, S., Mahendra, A. K., and Ansari, M. Y., 1989.** Tendu leaves: Their collection and trade for the benefit of rural people. *Indian Forester* 115(5):296-302.
- 1500 Dilmy, A., 1971.** Natural products of the lowland tropical forests (mainly of Indonesian Borneo (Kalimantan). In: Symposium: Planned utilization of the lowland tropical forests, Cipayung, Bogor, Java, Aug. 12-14, 1971. Sponsored by National Biological Institute, Regional Center for Tropical Biology, Unesco, and the Ford Foundation. pp. 238-247.
Discusses timber and wood products, cork, rubber, dyes, resins, gums, oils, drugs, seeds and fruits used for food, etc.

- 1501 Dixon, A., Roditi, H., and Silverman, L., 1991.** From forest to market: A feasibility study of the development of selected non-timber forest products from Borneo for the U.S. market. Cambridge, MA, Project Borneo. 2 vols. (234 pp., 75 pp.)
Vol. I: The report; Vol. II: The product catalog.
- 1502 Eltringham, S. K., 1990.** Tropical wildlife resources. In: Furtado, J. I. et al., eds. Tropical resources: Ecology and development. New York, Harwood Academic Publishers. pp. 97-114.
Reprinted from Resource Management and Optimization 7(1-4):97-114.
- 1503 Falconer, J. and Arnold, J. E. M., 1989.** Household food security and forestry: An analysis of socio-economic issues. Rome, Food and Agriculture Organization, [FAO Community Forestry Note no.1] 147 pp.
"The focus of this study is on the socio-economic aspects of forestry's role in household food security. It draws together information on household foods and income which are actually derived from activities dependent on tree and forest products...." (p. 1)
- 1504 Falconer, J., 1990.** The major significance of 'minor' forest products: The local use and value of forests in the West African humid forest zone. Rome, Food and Agriculture Organization, Community Forestry Note no. 6. 232 pp.
- 1505 Falconer, J., 1990.** The major significance of minor forest products: Examples from West Africa. Appropriate Technology 17(3):13-16.
- 1506 Fearnside, P. M., 1989.** Extractive reserves in Brazilian Amazonia: An opportunity to maintain tropical rain forest under sustainable use. BioScience 39(6):387-393.
"The creation of extractive reserves grants legal protection to forest land traditionally used by rubber trappers, Brazil-nut gatherers and other extractivists." (p. 387)
- 1507 Food and Agriculture Organization, 1989.** Forestry and food security. Rome, Food and Agriculture Organization, FAO Forestry Paper no. 90. 128 pp.
Report of an expert consultation on forestry and food security sponsored by the FAO Forestry Dept. and held in India in 1988. It discusses the interactions between people, trees, forests, agriculture and food production. Includes profiles of important food producing tree and shrub species in the tropics.
- 1508 Foxworthy, F. W., 1922.** Minor forest products of the Malay Peninsula. Malayan Forest Records No. 2. pp. 151-217.
The terms "minor forest products" and "jungle produce" are used to include all products of the forest other than the major products, timber and firewood.
- 1509 Gentry, A. H. and Blaney, C. L., 1990.** Alternative to destruction: Using the biodiversity of tropical forests. Western Wildlands 16(1):2-7.
Discusses the concept of extractive reserves.

- 1510 Godoy, R. A. and Feaw, T. C., 1989.** The profitability of smallholder rattan cultivation in Southern Borneo, Indonesia. *Human Ecology* 17(3):347-363.
 "This article contains a discussion of the methodology for evaluating the shadow price of a non-timber forest good." (p. 347)
- 1511 Gonzales Leija, L. A., 1988.** Mexican nonwood forest products. In: Technical papers presented at the 14th session of the North American Forestry Commission, Sault Ste Marie, Canada, Oct. 13-17, 1987. Great Lakes Forest Research Centre, Joint Report 12:55-71.
 Also published in French (pp. 73-88) and Spanish (pp. 89-104). This paper deals with nonwood forest species that are native to Mexico and yield products of commercial value. Includes descriptions of the plants and the purpose for which the product is used. Prospects for the industry are analyzed.
- 1512 Guinko, S. and Pasgo, L. J., 1992.** Harvesting and marketing of edible products from local woody species in Zitenga, Burkina Faso. *Unasylva* 43(168):16-19.
 The authors urge that greater attention should be paid to nonwood products when planning a management program for woody plants.
- 1513 Gupta, T. and Guleria, A., 1982.** Non-wood forest products in India: Economic potentials. New Delhi, Oxford & IBH Publishing Co., CMA Monographs no. 87. 147 pp.
- 1514 Hanover, J. W., 1988.** Feasibility study on small-farm production of gums, resins, exudates, and other non-wood products. Multipurpose Tree Species Network Research Series Paper no. 4. 47 pp.
 One of the objectives of this study is to help farmers improve their use of nonwood products from tropical forests.
- 1515 Hecht, S. B., Anderson, A. B., and May, P., 1988.** The subsidy from nature: Shifting cultivation, successional palm forests, and rural development. *Human Organization* 47(1):25-35.
 The authors show that "successional forests constitute both a renewable agricultural input and an important household and economic supplement to regional farmers." (p. 25) A case study from Brazil.
- 1516 Hecht, S. B., 1992.** Valuing land uses in Amazonia: Colonist agriculture, cattle, and petty extraction in comparative perspective. In: Redford, K. H. and Padoch, C., eds. *Conservation of Neotropical forests: Working from traditional resource use.* New York, Columbia University Press. pp. 379-399.
 Discusses the evaluation of extractive activities.
- 1517 Heinzman, R. and Reining, C., 1990.** Sustained rural development: Extractive forest reserves in the northern Peten of Guatemala. Yale School of Forestry and Environmental Studies, Tropical Resources Institute, TRI Working Paper no. 37. 104 pp.
 This study evaluates both the ecology and economy of xate, the most valuable of the Peten's nontimber forest products. Other, less important NTFPs are also discussed.

- 1518 Inoue, M., 1991.** Traditional rattan forestry in East Kalimantan and its future. In: The current state of Japanese forestry (VII): Its problems and future. Tokyo, Japanese Forest Economic Society. pp. 99-109.
Compares the "swidden-rattan forestry" system in two Benuaq Dayak villages in relation to their impact on the environment.
- 1519 Jacobs, M., 1984.** The study of non-timber forest products. In: Hanks, J., ed. Traditional life-styles, conservation and rural development: Proceedings of a symposium. IUCN Commission on Ecology Papers no. 7; Environmentalist vol. 4, Supplement 7:77-79.
- 1520 Jessup, T. C. and Peluso, N. L., 1986.** Minor forest products as common property resources in East Kalimantan, Indonesia. In: Proceedings of the Conference on Common Property Resource Management, Washington, DC, 1985. Washington, DC, National Academy Press. pp. 505-531.
A case study of tropical forest resources in the province of East Kalimantan in Indonesian Borneo.
- 1521 Johnson, D., editor, 1991.** Palms for human needs in Asia: Palm utilization and conservation in India, Indonesia, Malaysia and the Philippines. Brookfield, VT, A.A. Balkema. 258 pp.
"The argument for conservation and sustained use of remaining tropical forest areas is strengthened by calling attention to the economic value of palms to rural people."
(p. 5)
- 1522 Jordan, C. F., Farnworth, E. G., Tidrick, T. H., and Smathers, W. M., 1987.** Development of economic theory and methodology for evaluating non-market values of tropical forests. In: Lugo, A. E. et al., eds. People and the tropical forests: A research report from the United States Man and the Biosphere Program. Washington, DC, Government Printing Office. pp. 18-20.
The objective of this study was to calculate two types of assignable values for tropical forests: 1) the value of medical and pharmaceutical drugs derived from tropical forests, and 2) the service of atmospheric sulfur removal by tropical forests.
- 1523 Kageyama, P. Y., 1991.** Management of forests for non-wood products: The case of extractive reserves in Brazilian Amazonia. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area D, Part 1. Revue Forestiere Francaise, Hors Serie no. 4. pp. 369-375.
- 1524 Kikkawa, J., editor, 1985.** Wildlife management in the forests and forestry-controlled lands in the tropics and the Southern Hemisphere: Proceedings of a workshop, University of Queensland, July 16-18, 1984. [Vienna] International Union of Forestry Research Organizations. 77 pp.

- 1525 King, S. R., 1992.** Pharmaceutical discovery, ethnobotany, tropical forests, and reciprocity: Integrating indigenous knowledge, conservation, and sustainable development. In: Plotkin, M. and Famolare, L., eds. Sustainable harvest and marketing of rain forest products. Washington, DC, Island Press. pp. 231-238.
 "The development of pharmaceutical products can be a vigorous part of a global conservation strategy while simultaneously acknowledging the ethical obligation of reciprocal benefit for indigenous people." (p. 237)
- 1526 Lasschuit, J. A., 1983.** Non-timber products of the forest. Part A. [Wageningen, Agricultural University] Bosbouwtechniek, Interne Rapporten no. 1. 21 pp.
 A general overview of the subject. Part B, covering nontimber species in detail, was not available to the compiler of this bibliography.
- 1527 Lea, D. A. M., 1976.** Human sustenance and the tropical forest. In: Report of Symposium on Ecological Effects of Increasing Human Activities on Tropical and Subtropical Forest Ecosystems, University of Papua New Guinea, Apr. 28-May 1, 1975. Canberra, Australian Govt. Publ. Service. pp. 83-102.
 Discusses the tropical forest as a source of food and other useful products.
- 1528 Lescure, J. P. and Castro, A. de., 1992.** [Extractivism in central Amazonia: An outline of its economic and botanical aspects.] Bois et Forêts des Tropiques 231:35-51.
 The authors describe the historical background and socioeconomic structure of extractivism, the gathering and marketing of forest products other than wood. In French, with English summary.
- 1529 Lescure, J. P., Empeiraire, L., Pinton, F., and Renault-Lescure, O., 1992.** Nontimber forest products and extractive activities in the middle Rio Negro Region, Brazil. In: Plotkin, M. and Famolare, L., eds. Sustainable harvest and marketing of rain forest products. Washington, DC, Island Press. pp. 151-157.
- 1530 May, P. H., 1991.** Building institutions and markets for non-wood forest products from the Brazilian Amazon. *Unasylva* 42(165):9-16.
 "This article traces the institutional factors which have led to emerging alliances between forest dwellers in the Brazilian Amazon and progressive Northern businesses for the production and marketing of non-wood forest products." (p. 9)
- 1531 May, P. H., 1992.** Common property resources in the Neotropics: Theory, management progress, and an action agenda. In: Redford, K. H. and Padoch, C., eds. Conservation of Neotropical forests: Working from traditional resource use. New York, Columbia University Press. pp. 359-378.
 Discusses the property rights controversy and presents two case studies of forest product extractivism in Brazil; the case of natural rubber tapping and the babacu palm case.
- 1532 May, P. H., 1991.** Just how much is a forest worth? *Ceres* 23(3):28-30.
 Discusses the value of non-wood products from tropical rainforests.

- 1533 Mendelsohn, R., 1990.** The promise and pitfalls of extractive reserves. New Haven, CT, Yale School of Forestry and Environmental Studies. [11] pp.
 "This paper reviews recent research on non-timber forest products which demonstrate that extractive reserves can be economically superior to alternative uses of forests and forest lands." (abst.)
- 1534 Metz, J. J., 1990.** Forest product use in upland Nepal. *Geographical Review* 80:279-287.
 "The forests of the Himalaya provide humans with fuel, building materials, livestock feed and bedding, and medicines. These areas have also experienced rapid deforestation in the past several decades. This article surveys patterns and approximates quantities of wild-vegetation use in upland Nepal." (p. 279)
- 1535 Meulenhoff, L. W. M. and Silitonga, T. M., 1978.** The importance of minor forest products. In: *Proceedings of the Eighth World Forestry Congress, Jakarta, Oct. 1978.* Vol. VI-B, pp. 1321-1339.
- 1536 Mok, S. T., 1991.** Production and promotion of non-wood forest products. In: *10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area E. Revue Forestiere Francaise, Hors Serie no. 6.* pp. 103-112.
 Discusses nonwood products of tropical forests.
- 1537 Munoz, J. E., 1981.** Management of non-timber resources in the Caribbean National Forest. In: Whitmore, J. L., ed. *Wood production in the neotropics via plantations: Proceedings of an international symposium, IUFRO S1-07-09 Working Group, Rio Piedras, Puerto Rico, Sept. 8-12, 1980.* U.S. Forest Service, International Forestry Staff. pp. 1-4.
- 1538 Myers, N., 1990.** The nontimber values of tropical forests. University of Minnesota, College of Natural Resources, Forestry for Sustainable Development Program, Working Paper no. 10. 15 pp.
 This paper focuses on the question: Is it possible to exploit tropical forests for products and services in ways that do not deplete forest resources?
- 1539 Myers, N., 1988.** Tropical forests: A storehouse for human welfare. In: Almeda, F. and Pringle, C. M., eds. *Tropical rainforests: Diversity and conservation.* San Francisco, California Academy of Sciences; A.A.A.S., Pacific Division. *California Academy of Sciences Memoir no. 12.* pp. 13-27.
 Discusses nontimber products from tropical moist forests.
- 1540 Myers, N., 1988.** Tropical forests: Much more than stocks of wood. *Journal of Tropical Ecology* 4(2):209-221.
 This paper describes the main categories of nonwood products available from tropical forests, analyzes their relative worth, and proposes an approach to forest development that would take into account the full range of forest benefits.

- 1541 Myers, N., 1983.** Tropical moist forests: Over-exploited and under-utilized? *Forest Ecology and Management* 6(1):59-79.
 "This paper proposes that TMFs can supply many high-value goods and services...while being little, if at all, disturbed." The paper focuses on two categories of TMF outputs; raw materials and environmental services.
- 1542 Nations, J. D., 1992.** Xateros, chicleeros, and pimenteros: Harvesting renewable tropical forest resources in the Guatemalan Peten. In: Redford, K. H. and Padoch, C., eds. *Conservation of Neotropical forests: Working from traditional resource use.* New York, Columbia University Press. pp. 208-219.
 Discusses the Peten multiple-use reserve or extractive reserve, which focuses on three natural forest products; chicle gum, allspice, and the xate palm.
- 1543 Niekisch, M., 1992.** Nontimber forest products from the tropics: The European perspective. In: Plotkin, M. and Famolare, L., eds. *Sustainable harvest and marketing of rain forest products.* Washington, DC, Island Press. pp. 280-288.
 Discusses the growing number of consumers in Europe who are refusing to buy or use tropical timber unless it comes from sustainably managed forests. The development of markets for nontimber products from tropical forests is discussed.
- 1544 Olsson, G., 1991.** The socio-economic importance of non-timber forest products in the South Pacific: Focus on Vanuatu. *Unasyuva* 42(165):24-30.
 The author argues that, while the forests of Vanuatu may not hold high value as timber, their nontimber value is of significant importance.
- 1545 Ortmaier, E. and Schmittinger, B., 1988.** Possibilities of tapping the natural yield potential of the babassu forests in northeastern Brazil by environment-orientated resource management. *Quarterly Journal of International Agriculture* 27(2):170-185.
- 1546 Padoch, C., 1987.** The economic importance and marketing of forest and fallow products in the Iquitos Region. In: Denevan, W. M. and Padoch, C., eds. *Swidden-fallow agroforestry in the Peruvian Amazon.* Bronx, New York Botanical Garden. *Advances in Economic Botany.* Vol. 5, pp. 74-89.
 The author identifies the important minor forest products of the Iquitos region and assesses their relative importance in providing cash income for the residents of the Bora community at Brillo Nuevo and other villages of the Iquitos area. She also assesses the contribution of the trade in minor forest products to the national and regional economies.
- 1547 Panayotou, T. and Ashton, P. S., 1992.** Not by timber alone: Economics and ecology for sustaining tropical forests. Washington, DC, Island Press. 282 pp.
 Two objectives of this book are: 1) To identify and evaluate nontimber products and services that can be obtained from tropical forests; and 2) to determine the extent to which full accounting and enhancement of these products and services in a multiple-use management framework would help ensure the sustainability of tropical hardwood timber supplies. (p. 3)

- 1548 Pangeti, G. N., 1991.** Options for wildlife management in tropical zones. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area D, Part 2. *Revue Forestiere Francaise, Hors Serie no. 5.* pp. 275-290.
 "This paper reviews the various options for sustainable utilization of wildlife that are applicable in tropical Africa with specific examples from Zimbabwe." (p. 275)
- 1549 Pendelton, L. H., 1992.** Trouble in paradise: Practical obstacles to nontimber forestry in Latin America. In: Plotkin, M. and Famolare, L., eds. Sustainable harvest and marketing of rain forest products. Washington, DC, Island Press. pp. 252-262.
 "This chapter addresses certain economic prerequisites of nontimber forestry and discusses some prospects and applications of sustainable nontimber forestry in Latin America." (p. 253)
- 1550 Peters, C. M., Balick, M. J., Kahn, F., and Anderson, A. B., 1989.** Oligarchic forests of economic plants in Amazonia: Utilization and conservation of an important tropical resource. *Conservation Biology* 3(4):341-349.
 "Market-oriented extraction of the fruits produced by oligarchic forests appears to represent a promising alternative for reconciling the development and conservation of Amazonian forests." (p. 341)
- 1551 Peters, C. M., 1990.** Population ecology and management of forest fruit trees in Peruvian Amazonia. In: Anderson, A. B., ed. Alternatives to deforestation: Steps toward sustainable use of the Amazon rain forest. New York, Columbia University Press. pp. 86-98.
 The author concludes that the sustainable exploitation of forest fruit trees offers a promising alternative to deforestation.
- 1552 Peters, C. M., Gentry, A. H., and Mendelsohn, R. O., 1989.** Valuation of an Amazonian rainforest. *Nature* 339(6227):655-656.
 The authors contend that "a detailed accounting of non-wood resources is required before concluding a priori that tropical deforestation makes financial sense." (p. 655)
- 1553 Phung Trung Ngan, 1971.** Natural products of the lowland forests in the Republic of Vietnam. In: Symposium: Planned utilization of the lowland tropical forests, Cipayung, Bogor, Java, Aug. 12-14, 1971. Sponsored by National Biological Institute, Regional Center for Tropical Biology, Unesco, and the Ford Foundation. pp. 231-237.
 Discusses three categories of products: Industrial plants and plant products (including wood products); food plants; and drug plants and drugs.
- 1554 Pinedo-Vasquez, M., Zarin, D., and Jipp, P., 1989.** Community forest and lake reserves in northeast Peru: A local alternative for sustainable use of the tropical forest. Yale School of Forestry and Environmental Studies, Tropical Resources Institute, TRI Working Paper no. 44A. 18 pp.
 Concludes with a list of five objectives for the promotion of community extractive reserves as a conservation and sustainable development strategy.

- 1555 Plotkin, M. and Famolare, L., editors, 1992.** Sustainable harvest and marketing of rain forest products. Washington, DC, Island Press. 325 pp.
This book is based on papers presented at the conference on "The Sustainable Harvest and Marketing of Rain Forest Products" held in Panama City, Panama in June 1991.
- 1556 Poulsen, G., 1981.** Important forest products in Africa other than wood and wood extractives: A preliminary study. Rome, Food and Agriculture Organization, RAF/78/025. 35 pp. + appendix. (Microfiche)
- 1557 Poulsen, G., 1982.** The non-wood products of African forests. *Unasylva* 34(137):15-21.
- 1558 Prance, G., 1990.** Fruits of the rainforest. *New Scientist* 125(1699):42-45.
Discusses the nontimber products of the rainforest.
- 1559 Prance, G. T., 1989.** Economic prospects from tropical rainforest ethnobotany. In: Browder, J. O., ed. *Fragile lands of Latin America: Strategies for sustainable development*. Boulder, Westview Press. pp. 61-74.
"So many data from economic botany are pointing to the fact that one of the best ways of conserving areas of Amazonian forest would be to use them as commercially productive extraction areas, rather than to cut the forest for alternative uses of dubious economic sustainability." (pp. 71-72)
- 1560 Prance, G. T., 1990.** Managing the rainforest. *Appropriate Technology* 17(3):5-8.
The author outlines the economic and ecological arguments for sustainable extraction of nontimber forest products.
- 1561 Prasad, B. N., 1985.** Regional non-wood forest products industries. Kuala Lumpur, Food and Agriculture Organization, FO:RAS/78/010, Working Paper no. 42. [58] pp. (Microfiche)
At head of title: Forest Industries Development Group, Asia Pacific Region.
- 1562 Priasukmana, S., 1989.** Rattan for economic development in East Kalimantan. In: *Recent research on rattans: Proceedings of the International Rattan Seminar, Chiangmai, Thailand, 1987*. Kasetsart University, Faculty of Forestry; Ottawa, International Development Research Centre. pp. 248-257.
Rattan is Indonesia's most important forest product after wood.
- 1563 Rao, Y. S., 1991.** Non-wood forest products in the Asia-Pacific region: An over view. *Forest News* 5(4):5-16.
Discusses "minor forest products," products of the forest other than timber.
- 1564 Reining, C. and Heinzman, R., 1992.** Nontimber forest products in the Peten, Guatemala: Why extractive reserves are critical for both conservation and development. In: Plotkin, M. and Famolare, L., eds. *Sustainable harvest and marketing of rain forest products*. Washington, DC, Island Press. pp. 110-117.
Discusses the Maya Biosphere Reserve, established in northern Peten in 1990. The MBR is the center of an extractive industry based on nontimber forest products.

- 1565 Rico-Gray, V., Chemas, A., and Mandujano, S., 1991.** Uses of tropical deciduous forest species by the Yucatecan Maya. *Agroforestry Systems* 14(2):149-161.
Despite the lack of important commercial timber species, the tropical dry forest of Yucatan is an area where management could lead to sustainable production of honey, deer and building materials for houses. (p. 149)
- 1566 Robbins, S. R. J. and Matthews, W. S. A., 1974.** Minor forest products: Their total value is of a major order. *Unasylva* 26(106):7-14.
The authors give a survey of minor forest products which are significant in the economies of tropical lands in particular.
- 1567 Robbins, S. R. J. and Matthews, W. S. A., 1977.** Minor forest products - Their total value is of a major order. *Sri Lanka Forester* 13(1&2):19-28.
Reprinted from *Unasylva* 26(106):7-14,1974.
- 1568 Ryan, J. C., 1991.** Goods from the woods. *World Watch* 4(4):19-26.
Discusses extractive reserves, tracts of forest set aside by governments for management by local communities. Forest dwellers get control over fruits, nuts, latexes, medicinal plants and other valuable products.
- 1569 Ryan, J. C., 1992.** Goods from the woods: Managing tropical forests for preservation and profit. *Journal of Forestry* 90(4):25-28.
Discusses the role of nontimber forest products and extractive reserves in tropical forest management.
- 1570 Salick, J., 1991.** Non-timber forest products in buffer zone management of the Peace Park, Nicaragua. In: *Proceedings of the Humid Tropical Lowlands Conference: Development strategies and natural resource management*, Panama City, June 1991. Vol. IV. Bethesda, MD, Development Strategies for Fragile Lands. pp. 13-23.
The author discusses the use and commercialization of nontimber forest products combined with natural forest management, extractive reserves, and agroforestry, as realistic alternatives to tropical deforestation.
- 1571 Salick, J., 1992.** The sustainable management of nontimber rain forest products in the Si-a-Paz Peace Park, Nicaragua. In: Plotkin, M. and Famolare, L., eds. *Sustainable harvest and marketing of rain forest products*. Washington, DC, Island Press. pp. 118-124.
The author's ongoing research in the area compares populations and management of nontimber forest products within natural forest management for timber, campesino forest management, and unmanaged successional and primary forests.
- 1572 Salleh, M. N., 1990.** Evaluation for food, fodder, and other products. In: Tarlton, G. L., ed. *Forestry: A multiple-use enterprise: Proceedings of the thirteenth Commonwealth Forestry Conference*, Rotorua, Sept. 1989. Rotorua, New Zealand, Forest Research Institute. pp. 142-144.
Discusses issues surrounding the current and potential value of forests for food, fodder, and some other important nonwood resources, with emphasis on tropical forests.

- 1573 Salleh, M. N., 1987.** The potential of minor forest products. Kepong, Selangor, Malaysia, Forest Research Institute Malaysia. 65 pp.
The author argues that the economic value of nonwood forest products could far exceed that of direct economic benefits from wood.
- 1574 Schwartzman, S., 1991.** Deforestation and popular resistance in Acre: From local social movement to global network. *Centennial Review* 35(2):397-422.
The author discusses the social history of deforestation and land conflicts in Acre, Brazil, and the rubber tappers' alternative proposal, "extractive reserves." (p. 397)
- 1575 Schwartzman, S., 1989.** Extractive reserves: The rubber tappers' strategy for sustainable use of the Amazon rainforest. In: Browder, J. O., ed. *Fragile lands of Latin America: Strategies for sustainable development*. Boulder, Westview Press. pp. 150-165.
Extractive reserves are forest areas inhabited by extractive populations granted long-term rights to forest resources which they collectively manage. (p. 151)
- 1576 Schwartzman, S., 1992.** Social movements and natural resource conservation in the Brazilian Amazon. In: Counsell, S. and Rice, T., eds. *The rainforest harvest: Sustainable strategies for saving the tropical forests?* London, Friends of the Earth. pp. 207-212.
Discusses the creation of extractive reserves. Concludes with some comments regarding the importance of the social basis of extractive reserves for investment and marketing strategies as a means of protecting tropical forests.
- 1577 Serrano, R. C., 1988.** The home-based pandan industry of Luisiana and Majayjay, Laguna. *Canopy International* 14(1):5-7.
Presents an example from the Philippines of a local population involved in producing and processing nontimber forest products for profit.
- 1578 Shukla, V. K. S. and Nielsen, I. C., 1989.** Diversity of minor tropical tree crops and their importance for the industrialized world. In: Holm-Nielsen, L. B. et al., eds. *Tropical forests: Botanical dynamics, speciation and diversity*. New York, Academic Press. pp. 355-363.
- 1579 Siebert, S. F. and Belsky, J. M., 1985.** Forest-product trade in a lowland Filipino village. *Economic Botany* 39(4):522-533.
"A case study in one lowland Filipino village in Leyte, Philippines, revealed that over half of village households depend upon 8 species of commercially valuable rattan and 8 species of timber as a primary source of livelihood, and that all village households collected forest-products for supplementary and emergency income." (p. 522)
- 1580 Siebert, S. F., 1991.** Rattan: The key to natural forest management in Southeast Asia. In: *Pacific Rim forestry - Bridging the world: Proceedings of the Society of American Foresters National Convention, San Francisco, Aug. 4-7, 1991*. Bethesda, MD, SAF. pp. 385-389.

- 1581 Stanley, D. L., 1991.** Communal forest management: The Honduran resin tappers. *Development and Change* 22(4):757-779.
This paper analyzes the potential for cooperative resin extraction as a natural resource management strategy.
- 1582 Tesoro, F. O., 1984.** Utilization of selected non-timber forest products in the Philippines. In: Velasco, A. B. et al., eds. *Proceedings of the First ASEAN Forestry Congress, Manila, Oct. 10-15, 1983.* Quezon City, Philippines, Bureau of Forest Development. Vol. 2, pp. 591-609.
Nontimber forest products discussed are: Rattan, bamboo, tree exudates (resins), fuelwood, and charcoal.
- 1583 Toledo, V. M. et al., 1992.** Products from the tropical rain forests of Mexico: An ethnoecological approach. In: Plotkin, M. and Famolare, L., eds. *Sustainable harvest and marketing of rain forest products.* Washington, DC, Island Press. pp. 99-109.
"This chapter presents data on the total number of useful plants and plant products found in the tropical moist forests...of Mexico based on the knowledge of several indigenous groups, and discusses the economic importance of the forests, as well as their significance for conservation." (p. 100) Co-authors are: A. I. Batis, R. Becerra, E. Martinez, and C. H. Ramos.
- 1584 Vantomme, P., 1990.** Forest extractivism in the Amazon: Is it a sustainable and economical viable activity? Paper presented at Forest 90: First International Symposium on Environmental Studies on Tropical Rain Forests, Manaus, Brazil, Oct. 1990. [15] pp.
The author concludes that for the Amazon region, extractivism is slowly but definitely becoming an obsolete economic activity, and that while it is still very important in providing for the domestic needs of the rural population, as a regional element for trade and thus as an extra cash income, its importance is declining fast.
- 1585 Vantomme, P., 1991.** Importance of non-wood forest products for the regional trade in the Brazilian Amazon. In: 10th World Forestry Congress, Paris, 1991. *Proceedings, Discussion Area E. Revue Forestiere Francaise, Hors Serie no. 6.* pp. 119-124.
- 1586 Wahab, R., Hussain, H., and Mohmod, A. L., 1990.** Rattan and bamboo as a major industrial resource for rural people in Peninsular Malaysia. In: *Multipurpose tree species research for small farms: Strategies and methods: Proceedings of an international conference, Jakarta, Nov. 20-23, 1989.* Morrilton, AR, Winrock Int. Inst. for Agr. Dev.; Ottawa, International Dev. Res. Centre. pp. 75-78.
Discusses the status and problems faced by the rattan and bamboo cottage industries.
- 1587 Weles, S., 1978.** Rattan: A minor forest product as an important source of income for local communities in Indonesia. In: *Proceedings of the Eighth World Forestry Congress, Jakarta, Oct. 1978.* Vol. VI-B. pp. 1467-1475.

1588 Whitehead, B. W. and Godoy, R., 1991. The extraction of rattan-like lianas in the new world tropics: A possible prototype for sustainable forest management. *Agroforestry Systems* 16(3):247-255.

The authors discuss "how the extraction of rattan-like lianas could represent a sustainable system of forest management in which smallholder incomes are increased while relieving deforestation pressures." (p. 247)

1589 Wickens, G. E., 1991. Management issues for development of non-timber forest products. *Unasylva* 42(165):3-8.

"This article examines some of the issues related to sustained development of non-timber forest products within the context of overall forest management." (p. 3)

1590 Wickens, G. E., 1991. Non-wood forest products: The way ahead. Rome, Food and Agriculture Organization, FAO Forestry Paper no. 97. 37 pp.

Discusses FAO activities to encourage NWFP development.

1591 Williams, L., 1960. Little-known wealth of tropical forests. In: *Proceedings of the Fifth World Forestry Congress, Seattle, 1960.* Vol. 3, pp. 2003-2007.

Discusses some nonwood products from tropical forests.

1592 Winter, J. W., 1985. Problems of wildlife management peculiar to the tropical forests. In: Kikkawa, J., ed. *Wildlife management in the forests and forestry-controlled lands in the tropics and the Southern Hemisphere: Proceedings of a workshop, Univ. of Queensland, July 16-18, 1984.* [Vienna] IUFRO. pp. 7-14.

1593 Yellappa Reddy, A. N., 1985. Non-wood natural resources, economic activity and regional development. *Myforest* 21(1):1-7.

"Non-wood forest products form a source of raw materials for cottage industries, which generate employment to millions of people living in rural areas, who are normally unemployed or underemployed." (p. 6)

1594 Ziffer, K., 1992. The Tagua Initiative: Building the market for a rain forest product. In: Plotkin, M. and Famolare, L., eds. *Sustainable harvest and marketing of rain forest products.* Washington, DC, Island Press. pp. 274-279.

Outlines the mechanics of bringing the products of the tagua palm to market.

RESEARCH, EDUCATION, AND TRAINING



1595 Abdul, M. A. and Salleh, M. N., 1988. Forestry research needs and opportunities in Tropical Asia. A background paper for the Task Force on Tropical Forestry Research. No place; no publisher. 38 pp. + appendix.

1596 Adeyoku, S. K., 1976. A study on forest administration problems in six selected African countries (Cameroon, Ghana, Kenya, Liberia, Nigeria and Tanzania). Rome, Food and Agriculture Organization, FO:MISC/76/21. 60 pp.

"This study examines the situation of national forest services in six African states and their capabilities as active resource management agencies." (p. v)

1597 Adisoemarto, S. and Brunig, E. F., editors, 1979. Transactions of the Second International MAB/IUFRO Workshop on Tropical Rainforest Ecosystems Research, Jakarta, Oct. 21-25, 1978. University of Hamburg, Chair of World Forestry, Special Report no. 2. 295 pp.

Emphasizes socio-economic-cultural research relating to tropical forests.

1598 Arnold, J. E. M., 1987. Research needs and opportunities in tropical forestry policy research. Prepared for the Rockefeller Foundation. [11] pp.

Paper prepared for the Strategy Meeting on Tropical Forests, Bellagio, Italy, July 1987.

1599 Awori, A., 1988. Priority issues on forestry research: An African NGO's perspective. A background paper for the Task Force on Tropical Forestry Research. No place; no publ. 6 pp.

This paper summarizes major issues and recommendations made by various African NGO leaders.

1600 Bengston, D. N. and Gregersen, H. M., 1988. Forestry research capacity in developing countries: A review of issues and findings. University of Minnesota, Center for Natural Resource Policy and Management Studies, Working Paper no. 4. 38 pp. + 7 tables.

Discusses the need for increasing forestry research expenditures in less developed countries and the need for improving the institutional environment in which research is carried out.

1601 Bengston, D. N. and Gregersen, H. M., 1988. What influences forestry research capacity in developed and less-developed countries? *Journal of Forestry* 86(2):41-43.

"This article presents the results of a comparative study of factors affecting the capacity of public forestry research institutions in less-developed countries and developed countries." (p. 41)

- 1602 Bengston, D. N., Gregersen, H. M., Lundgren, A. L., and Hamilton, L. S., 1988.** Forestry research capacity in the Asia-Pacific region: An evaluation model and preliminary assessment. Honolulu, East-West Center, East-West Environment and Policy Institute, Occasional Paper no. 6. 96 pp.
This study examined forestry research capacity in the Asia-Pacific region, with a focus on less developed countries.
- 1603 Bengston, D. N., Xu, Z., and Gregersen, H. M., 1988.** Key factors in strengthening forestry research capacity in developing countries. University of Minnesota, Center for Natural Resource Policy and Management Studies, Working Paper no. 5. 28 pp.
"This study focuses on factors affecting forestry research capacity in developing countries that are internal to the national research system." (p. 3)
- 1604 Berkmuller, K., 1984.** Environmental education about the rain forest. Ann Arbor, MI, University of Michigan, School of Natural Resources, Wildland Management Center. 124 pp.
This book is "for educators intending to teach the values of tropical moist forests."
- 1605 Bertault, J. G., 1992.** The contribution of research to tropical forest management. *Bois et Forêts des Tropiques* 232:26-28.
Presents an account of the Seminar organized December 9-10, 1991, within the STREK Project. STREK=Silvicultural Techniques for the Regeneration of Logged Rain Forest in East Kalimantan. In English and French.
- 1606 Bertault, J. G., 1991.** [The contribution of research and development for silviculture in tropical rainforests: A management advantage.] In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area D, Part 1. *Revue Forestière Française, Hors Série* no.4. pp. 320-326.
- 1607 Board on Science and Technology for International Development, 1991.** Tropical forestry research: Developing a U.S. strategy. Washington, DC, National Research Council, Office of International Affairs, BOSTID. 56 pp.
"The purpose of this report is to suggest how the United States could help ensure that constructive research is undertaken to better understand the relationships between people and tropical trees and forests." (p. iii)
- 1608 Brunig, E. F., 1984.** Forest research and planning in South and Southeast Asia. *Applied Geography and Development* 23:46-54.
Discusses research priorities, obstacles to research, and types of training needed for research.
- 1609 Brunig, E. F., editor, 1977.** Transactions of the International MAB/IUFRO Workshop on Tropical Rainforest Ecosystems Research, Hamburg, Reinbek, May 12-17, 1977. University of Hamburg, Chair of World Forestry, Special Report no. 1. 353 pp.
The research, training, education components of MAB Project 1 were discussed. The emphasis was on the bio-ecological and ecosystems level.

- 1610 Buckman, R. E., 1991.** The role of research in tropical forestry. *Philippine Lumberman* 37(2):30,32-34.
Reprinted from *Unasyuva*.
- 1611 Buckman, R. E., 1988.** The role of science in tropical forestry: Toward an international system for forestry research. University of British Columbia, H.R. MacMillan Lectureship in Forestry, Jan. 21, 1988. 15 pp.
- 1612 Buckman, R. E., 1990.** The role of research in tropical forestry. *Unasyuva* 41(162):39-43.
This article "briefly examines the rapidly increasing awareness of the importance of tropical forestry research and the past contributions and future potential of research to forestry development." (p. 39)
- 1613 Burley, J. et al., 1989.** Forestry research in eastern and southern Africa. Oxford Forestry Institute, Tropical Forestry Papers no. 19. 58 pp. + appendix.
The purposes of the study were to: (1) Summarize historical achievements in national forestry research; (2) review current status of forestry research; (3) identify and review technical and institutional status and resources; and (4) propose future priority problems for forestry research.
- 1614 Burley, J., 1987.** International forestry research networks: Objectives, problems and management. *Unasyuva* 39(157/158):67-73.
Discusses the need for cooperative networks in the field of forestry research, and presents guidelines for successful research networks.
- 1615 Callaham, R. Z. et al., 1989.** INCOFORE: A research and extension system for tropical forestry. Vienna, International Union of Forestry Research Organizations. 35 pp.
A proposal for the establishment of an International Council for Forestry Research.
- 1616 Camino V., R. de, 1988.** Some considerations about tropical forestry research in Latin America: The research system, weaknesses, strengths, needs and organization. A background paper for the Task Force on Tropical Forestry Research. No place; no publisher. 67 pp.
- 1617 Camino, R. de and McKenzie, T., 1989.** The needs of socio-economic forestry research in Central America: Some considerations. In: Database management applications in forestry research: An international workshop, Turrialba, Costa Rica, June 1988. Turrialba, Centro Agronomico Tropical de Investigacion y Ensenanza, Serie Tecnica, Informe Tecnico no. 143. pp. 24-34.
Emphasizes research needs relating to the priority aspects of the Tropical Forestry Action Plan: Forestry and landuse; forest industries; fuelwood and energy; conservation of ecosystems; and institutional development.
- 1618 Castner, J. L., 1990.** Rainforests: A guide to research and tourist facilities at selected tropical forest sites in Central and South America. Gainesville, Florida, Feline Press. 380 pp.
Includes a list of organizations with programs potentially supporting research in the tropics.

- 1619 Champion, H. G., 1965.** Tropical forestry education. In: Proceedings of the Duke University Tropical Forestry Symposium, Durham, NC, Apr. 21-26, 1965. Duke University School of Forestry, Bulletin no. 18. pp. 78-97.
- 1620 Clark, D. B., 1988.** The search for solutions: Research and education at the La Selva Biological Station and their relation to ecodevelopment. In: Almeda, F. and Pringle, C. M., eds. Tropical rainforests: Diversity and conservation. San Francisco, California Academy of Sciences; A.A.A.S., Pacific Division. California Academy of Sciences Memoir no. 12. pp. 209-224.
Reviews the history and development of the La Selva Biological Station in Costa Rica.
- 1621 Dourojeanni, M. J., 1990.** Research needed to counteract deforestation in the humid tropics. In: International Union of Forest Research Organizations, 19th World Congress, Montreal, Aug. 5-11, 1990. Congress Report, Vol. B. Hull, Quebec, Forestry Canada, IUFRO Organizing Committee. pp. 185-194.
The author reviews "the most relevant topics in policy, social and economics research as related to deforestation."
- 1622 Durst, P. B. and Norris, M. J., 1990.** A profile of U.S. tropical foresters: Depth and variety in experience, education, and skills. *Journal of Forestry* 88(2):17-20.
- 1623 Dutki, G. Z., 1991.** Educating the forester. In: Pyatt, N. and Williams, J., eds. Tropical forestry: Third world priorities versus western concerns: Proceedings of the 1990 International Student Forestry Symposium, University of Wales. pp. 75-79.
The author believes that, for a tropical forester, a basic forestry education is not enough.
- 1624 El-Lakany, M. H., 1988.** Opportunities for forestry research in North Africa/Near East. A background paper for the Task Force on Tropical Forestry Research. No place; no publisher. 11 pp.
- 1625 Elfring, C., 1983.** Sustaining tropical forest resources: U.S. and international institutions. Washington, DC, Office of Technology Assessment, Background Paper no. 2. 65 pp.
"This background paper explores the roles of national, regional, and international institutions and the private sector in developing and implementing technologies to sustain tropical forests." (p. iii)
- 1626 Food and Agriculture Organization, 1978.** Needs for forestry research in the tropics and what international action can do to meet them. Eighth World Forestry Congress, Jakarta, Oct. 16-28, 1978, Discussion Paper. 20 pp.
Identifies the problem areas in tropical forestry and examines the institutional alternatives to organizing and carrying out tropical forestry research.
- 1627 Francois, T., 1965.** International technical assistance in tropical countries in the field of forestry. In: Proceedings of the Duke University Tropical Forestry Symposium, Durham, NC, Apr. 21-26, 1965. Duke University, School of Forestry, Bulletin no. 18. pp. 134-176.

- 1628 Gennino, A., editor, 1990.** Amazonia: Voices from the rainforest: A resource and action guide. San Francisco, Rainforest Action Network. 92 pp.
Includes a directory of over 250 organizations concerned with preservation of Amazon rainforests.
- 1629 Gregersen, H. M., 1990.** Key forestry issues facing developing countries: A focus on policy and socioeconomic research needs and opportunities. In: International Union of Forest Research Organizations, 19th World Congress, Montreal, Aug. 5-11, 1990. Congress Report, Vol. B. Hull, Quebec, IUFRO Organizing Committee, Forestry Canada. pp. 74-86.
Four broad issue areas are discussed, among them, "containing unproductive deforestation in the humid tropics and improving the sustainability of use of remaining forest lands and lands that are cleared." (p. 74)
- 1630 Gregersen, H. M., 1992.** Key forestry issues facing developing countries: A focus on policy and socioeconomic research needs and opportunities. In: Gregersen, H., et al., eds. Priorities for forestry and agroforestry policy research: Report of an international workshop. Washington, DC, International Food Policy Research Institute. pp. 55-62.
Discusses four key issues: (1) Containing unproductive tropical deforestation; (2) reducing forest destruction in dryland regions; (3) reducing the rate of forest destruction in upland watersheds; and (4) improving the ways in which trees on farms and in communities contribute to household welfare and income stability. (p. 56)
- 1631 Gregersen, H. M., 1987.** Social science research needs for tropical forest management. Paper prepared for the Rockefeller Foundation. 12 pp.
Paper prepared for the Strategy Meeting on Tropical Forests, Bellagio, Italy, July 1987.
- 1632 Gregersen, H. M., 1988.** The global tropical forestry research system: Present situation, needed improvements. A background paper for the Task Force on Tropical Forestry Research. No place; no publisher. Various pagings.
- 1633 Grimes, A. P. and Thomas, G. M., 1991.** Deforestation and the rural farmer: The potential for problem-specific environmental education in Central America: Case studies from Costa Rica and Honduras. Yale School of Forestry and Environmental Studies, Tropical Resources Institute, TRI Working Paper no. 53. 66 pp.
The authors present this paper "as an initial analysis of the potential for environmental education to overcome some of the immediate environmental problems facing the region." (p. 2)
- 1634 Grison, F., 1991.** [International forestry research: The time for maneuvers leading to new ambitions.] Bois et Forêts des Tropiques 227:75-83.
Discusses international research efforts relating to tropical forests. In French, with English summary.
- 1635 Guiscafre, J., 1982.** Professional organizations and institutions concerned with tropical timber. In: Oldeman, R. A. A., ed. Tropical hardwood utilization: Practice and prospects. The Hague, Martinus Nijhoff. pp. 563-572.

- 1636 Hall, J. B., 1988.** Priorities and trends in tropical rain forest research. In: McDermott, M. J., ed. *The future of the tropical rain forest: Proceedings of an international conference*, Oxford, June 27-28, 1988. Oxford, Oxford Forestry Institute. pp. 80-82.
- 1637 Harrington, G. N. and Cassells, D., 1990.** Thoughts on an agenda for scientific research. In: Webb, L. J. and Kikkawa, J., eds. *Australian tropical rainforests: Science, values, meaning*. East Melbourne, CSIRO. pp. 165-171.
- 1638 Helms, J. A., 1971.** Education and research in tropical forestry. *Journal of Forestry* 69(7):414-417.
Discusses the Organization for Tropical Studies, a consortium of universities and research institutes dedicated to promoting tropical forestry education and research.
- 1639 Henning, D. H., 1989.** Tropical forest administration and in-service training: Interdisciplinary integration of ecological approaches and values. *Journal of Tropical Forestry* 5(4):279-288.
The author stresses the importance of getting "ecological concepts and values into use in all planning, policy, and decision making for tropical forests." (p. 279)
- 1640 Honadle, G., 1989.** Putting the brakes on tropical deforestation: Some institutional considerations. Prepared for U.S. Agency for International Development, Office of Rural and Institutional Development. 27 pp. + appendix.
"This paper discusses organizational and institutional factors that may influence attempts to contain tropical deforestation." (p. 1)
- 1641 Huguet, L., 1988.** Forestry research in French-speaking Tropical Africa: Ongoing activities, needs and prospects. No place; no publisher. [17] pp.
A background paper for the Task Force on Tropical Forestry Research. Undated; probable publication date, 1988.
- 1642 Hulse, J. H., 1988.** Tropical Forestry Research Programme: Institutional alternatives for financing, guiding, monitoring, co-ordinating, accounting for and reporting upon the Tropical Forestry Research Programme. A background paper for the Task Force on Tropical Forestry Research. No place; no publisher. 30 pp.
- 1643 Hyman, E. L. and Ross-Sheriff, B., 1984.** Improving professional and technical education in tropical forestry through development assistance. *Managing International Development* 1(6):65-76.
"Professional education programs in forestry and in related fields such as biology, ecology, applied anthropology, rural sociology, and public administration need to be improved in the tropics." (p. 65)

- 1644 International Task Force on Forestry Research, 1988.** A global research strategy for tropical forestry: Report of an international task force on forestry research. Sponsored by: Rockefeller Foundation, United Nations Development Programme, World Bank, and FAO. 88 pp.
The Bellagio II Task Force on Tropical Forestry Research was asked to: (1) Assess the potential benefits from a significant expansion of investment in research, (2) Identify priority research opportunities, and (3) Define and recommend appropriate institutional mechanisms to guide and coordinate an expanded global research effort. (p. ii)
- 1645 Iyamabo, D. E. and El-Lakany, M. H., 1988.** Forestry research in Africa: Problems, priorities and needs. A background paper for the Task Force on Tropical Forestry Research. No place; no publisher. 35 pp. + appendix.
- 1646 Kennedy, R. S., 1987.** Educating the slash-and-burn farmer on the conservation of the rain forest: A challenge in intercultural communication. *Journal of the Washington Academy of Sciences* 77(4):230-237.
The objective of this project was to develop a pilot educational program in the Philippines aimed at introducing forest conservation concepts to school children and to forest farmers.
- 1647 Khare, A., 1988.** Forestry research: An Asian NGOs perspective. A background paper for the Task Force on Tropical Forestry Research. No place; no publisher. 12 pp.
- 1648 Kio, P. R. O. and Ero, I. I., 1991.** Organization of tropical forestry research: Priority themes. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area F, Part 2. *Revue Forestiere Francaise, Hors Serie no. 8.* pp. 181-189.
The priority research themes in common in the 3 tropical regions are: 1) Agroforestry and watershed management; 2) natural forest management and conservation; 3) tree breeding and maintenance of biodiversity; and 4) policy and socio-economic research.
- 1649 Lugo, A. and Brown, S., 1984.** Research and training needs in the tropics: The need for re-evaluation. In: DiCasteri, F. et al., eds. *Ecology in practice. Part I: Ecosystem management.* Dublin, Tycooly; Paris, Unesco. pp. 57-70.
Concludes with suggestions for an approach for developing training and research priorities in tropical forestry.
- 1650 Lugo, A. E., 1991.** Tropical forestry research: Past, present and future. *Journal of Forestry* 89(3):10-11, 22.
The author points out some of the problems relating to tropical forestry research: The absence of trained scientists and research facilities in large sectors of the biome; the lack of appreciation for research; and the fact that until the 1980s most research was conducted in a social vacuum.
- 1651 Lundgren, A. L., Hamilton, L. S., and Vergara, N. T., 1986.** Strategies for improving the effectiveness of Asia-Pacific forestry research for sustainable development. Honolulu, East-West Center, Environment and Policy Institute. 56 pp.
Report of a workshop held at the East-West Center, March 17-21, 1986.

- 1652 Mergen, F., 1983.** Tropical forestry: A challenge to the profession of forestry. New Haven, Yale University, School of Forestry and Environmental Studies. 23 pp.
Presents an overview of special considerations dealing with tropical forest management and concludes with a discussion of the need for foresters educated in tropical forestry.
- 1653 Nanayakkara, V. R., 1986.** Report on the "TROPENBOS" consultation on a united approach for research in the humid tropical forests. Sri Lanka Forester 17(3-4):58-62.
The TROPENBOS consultation was held in the Netherlands from Oct. 27-31, 1986. The aim of TROPENBOS is to initiate a global research program to conserve and develop tropical rainforests of the world.
- 1654 Nijman, J. and Hill, A. D., 1991.** Deforestation in the Brazilian Amazon: A classroom project. Journal of Geography 90(3):102-105.
Describes a classroom project designed for the lower undergraduate level which deals with tropical deforestation in the Brazilian Amazon. The project addresses both environmental consequences and economic, social, and political causes.
- 1655 Oram, P. A., 1988.** Networks as a research modality. A background paper for the Task Force on Tropical Forestry Research. No place; no publisher. [12] pp.
- 1656 Palmer, J. R., 1992.** Research needs in secondary forests. In: Proceedings of the Humid Tropical Lowlands Conference: Development Strategies and Natural Resource Management, Panama City, 1991. Vol. V. Bethesda, MD, Development Strategies for Fragile Lands. pp. 85-96.
- 1657 Putz, F. E., 1989.** Tropical forestry education in the United States. Journal of Forestry 87(7):27-30.
Very few graduate programs in the U.S. provide the special training needed by tropical foresters.
- 1658 Roche, L., 1976.** Priorities for forestry research and development in the tropics: Report to International Development Research Centre. Bangor, Wales, University College of North Wales, Dept. of Forestry and Wood Science. 105 pp.
No publication information given; the author was affiliated with the University College of North Wales. No publication date; probable date, 1976.
- 1659 Rockefeller Foundation, 1987.** Research needs and opportunities for improved management of tropical forests. Background paper for the Strategy Meeting on Tropical Forests, Bellagio, Italy, July 1987. 36 pp.
- 1660 Rose, D. W., 1989.** Database applications in tropical forestry. In: Database management applications in forestry research: An international workshop, Turrialba, Costa Rica, June 1988. Turrialba, Centro Agronomico Tropical de Investigacion y Ensenanza, Serie Tecnica, Informe Tecnico no. 143. pp. 1-6.
Discusses the need for global databases and scientific networking.

- 1661 Rose, D. W., 1988.** Information management for expanded tropical forestry research. A background paper for the Task Force on Tropical Forestry Research. No place; no publisher. 29 pp.
Discusses the microcomputer-based MIRA management information system on multipurpose tree species research which is operational at CATIE in Costa Rica.
- 1662 Salleh, M. N., 1992.** Forestry research in the Asia-Pacific. Bangkok, FAO, Forestry Research Support Programme for Asia and the Pacific, FORSPA Publication no. 1. 54 pp.
Discusses the status of research on Asian tropical forestry, constraints to accelerated forestry research in Asia, and strategies for improvement of forestry research.
- 1663 Salleh, M. N., 1991.** Tropical forestry research: Hope or despair. In: 10th World Forestry Congress, Paris, 1991. Proceedings, Discussion Area F., Part 2. Revue Forestiere Francaise, Hors Serie no. 8. pp. 151-157.
- 1664 Segerstrom, G., 1977.** Creating work and caring about workers in tropical forestry. *Unasylva* 28(114):2-9.
Discusses the potential of tropical forestry for creating jobs. Suggests the establishment of specially designed forest villages close to forest work areas as a way to provide social amenities to workers and their families.
- 1665 Shirley, H. L., 1968.** Post graduate and research centers for tropical forestry. In: Food and Agriculture Organization. Report of the first session of the FAO Committee on Forest Development in the Tropics, Rome, Oct. 18-20, 1967. Rome, FAO, FO/FDT/67 Rep. pp. 108-113.
- 1666 Siddiqui, K. M., 1990.** International support to forestry research and development. *Pakistan Journal of Forestry* 40(3):203-205.
- 1667 Solerzano, R., 1988.** Perspectives of NGO organizations on natural resource research in Latin America. A background paper for the Task Force on Tropical Forestry Research. No place; no publisher. 18 pp. + appendix.
- 1668 Spears, J., 1988.** Containing tropical deforestation: A review of priority areas for technological and policy research. [Washington, DC] World Bank, Environment Dept. Working Paper no. 10. [72] pp.
"This paper reviews promising research topics that have potential to make a decisive contribution to the TFAP [Tropical Forestry Action Plan] objectives of containing tropical deforestation..." (p. i.) Includes a discussion of forestry research for maintaining sustainable land use and research needs for conservation of biological diversity.
- 1669 Spears, J., 1989.** Containing tropical deforestation: A review of priority areas for technological and policy research. In: Meyers, L. R., editor. Innovation in resource management: Proceedings of the Ninth Agriculture Sector Symposium. Washington, DC, World Bank. pp. 135-150.

- 1670 Spears, J., 1988.** Forestry research priorities for underpinning the Tropical Forestry Action Plan (TFAP): An overview. A background paper for the Task Force on Tropical Forestry Research. No place; no publisher. [72] pp.
- 1671 Stevers, M. E., 1984.** Do we need to teach tropical forestry in the tropics? In: New forests for a changing world: Proceedings of the 1983 Convention of the Society of American Foresters, Portland, OR, Oct. 16-20, 1983. [Bethesda, MD] Society of American Foresters. pp. 539-542.
The author argues that students from temperate climates who want to work in the tropics must do part of their training in the tropics.
- 1672 Stone, D. E., 1988.** The Organization for Tropical Studies (OTS): A success story in graduate training and research. In: Almeda, F. and Pringle, C. M., eds. Tropical rainforests: Diversity and conservation. San Francisco, California Academy of Sciences; A.A.A.S., Pacific Division. California Academy of Sciences Memoir no. 12. pp. 143-187.
This paper documents the history and development of the OTS, a consortium of universities and research institutions established in 1963.
- 1673 Temu, A. B., 1988.** Forestry research in developing countries: Problems and strategies. In: Inventorying and monitoring forest. 18th IUFRO World Congress, 1986. Nogent, Marne, Association Silva, Arbres, Forêts et Sociétés. 11 pp.
Discusses training needs, research facilities and equipment, funding needs, research evaluation, and dissemination of research results.
- 1674 Thorsell, J., 1991.** Strengthening protected area management training in tropical countries. Parks 2(1):9-13.
- 1675 U.S. Forest Service, 1990.** Tropical Forestry Program: Fiscal year 1990 progress report on training, technical assistance and support to international organizations. U.S. Forest Service, International Forestry. 33 pp.
- 1676 Velay, L., 1976.** Administrative organization of forestry in the developing countries. [Rome] Food and Agriculture Organization, Committee on Forest Development in the Tropics, 4th session, Rome, Nov. 15-20, 1976. FO/FDT/76/5a. 28 pp.

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- 1677 Abrams, E. M. and Rue, D. J., 1988. The causes and consequences of deforestation among the prehistoric Maya. *Human Ecology* 16(4):377-395.
- 1678 Adas, M., 1983. Colonization, commercial agriculture, and the destruction of the deltaic rainforests of British Burma in the late nineteenth century. In: Tucker, R. P. and Richards, J. F., eds. *Global deforestation and the nineteenth-century world economy*. Durham, N.C., Duke University Press. pp. 95-110.
- 1679 Balee, W., 1992. Indigenous history and Amazonian biodiversity. In: Steen, H. K. and Tucker, R. P., eds. *Changing tropical forests: Historical perspectives on today's challenges in Central and South America*. [Durham, NC] Forest History Society. pp. 185-197.
- The author concludes that "the pre-Columbian chiefdoms of the past, together with the hunting and gathering and horticulturist Indian peoples of today in the Amazon have more in common with each other than any of them do with modern nation states, in terms of mutually distinctive effects on biological and ecological diversity." (p. 194)
- 1680 Boomgaard, P., 1992. Exploitation and management of the Surinam forests 1600-1975. In: Steen, H. K. and Tucker, R. P., eds. *Changing tropical forests: Historical perspectives on today's challenges in Central and South America*. [Durham, NC] Forest History Society. pp. 252-264.
- 1681 Brookfield, H. and Overton, J., 1988. How old is the deforestation of Oceania? In: Dargavel, J. et al., eds. *Changing tropical forests: Historical perspectives on today's challenges in Asia, Australasia and Oceania*. Canberra, Australian National University, Centre for Resource and Environmental Studies. pp. 89-99.
- Discusses early evidence of deforestation in Fiji.
- 1682 Brown, L. V., 1992. Urban growth, economic expansion, and deforestation in late colonial Rio de Janeiro. In: Steen, H. K. and Tucker, R. P., eds. *Changing tropical forests: Historical perspectives on today's challenges in Central and South America*. [Durham, NC] Forest History Society. pp. 165-175.
- 1683 Bunker, S. G., 1980. Forces of destruction in Amazonia. *Environment* 22(7):14-20, 34-40, 42-43.
- Traces the history of tropical forest destruction in the Amazon and the disruption and sometimes extinction of indigenous societies from the colonial period to the rubber boom and up to the present.

- 1684 Dargavel, J., Dixon, K., and Semple, N., editors, 1988.** Changing tropical forests: Historical perspectives on today's challenges in Asia, Australasia and Oceania. Workshop meeting, Canberra, 16-18 May, 1988. Canberra, Australian National University, Centre for Resource and Environmental Studies. 446 pp.
Includes papers presented at the first meeting of IUFRO's Tropical Forest History Working Group (S.6.07.01) held at the Australian National University in May, 1988.
- 1685 Dargavel, J., 1988.** Tropical forest history in theory and practice. In: Dargavel, J. et al., eds. Changing tropical forests: Historical perspectives on today's challenges in Asia, Australasia and Oceania. Canberra, Australian National University, Centre for Resource and Environmental Studies. pp. 3-16.
- 1686 Dunn, F. L., 1975.** Rain-forest collectors and traders: A study of resource utilization in modern and ancient Malaya. Kuala Lumpur, Monographs of the Malaysian Branch, Royal Asiatic Society no. 5. 151 pp.
"The central theme of this study is human adaptation in the tropical rain-forest ecosystems of the southern Malay Peninsula, with special reference to forest resources and their exploitation by man in the protohistoric and prehistoric past." (p. 2)
- 1687 Eggert, M. K. H., 1992.** The Central African rain forest: Historical speculation and archaeological facts. *World Archaeology* 24(1):1-24.
The objectives of this paper are: 1) "To provide an archaeological perspective on the hunter/fisher-gatherer problem;" and 2) "to evaluate the degree of correspondence between some widely accepted views on equatorial rain forest settlement and archaeological evidence currently available." (p. 1)
- 1688 Ellen, R. F., 1985.** Patterns of indigenous timber extraction from Moluccan rain forest fringes. *Journal of Biogeography* 12(6):559-587.
"Using ethnographic and historical data, this paper tries to show the effects of different patterns of demand and extraction on the condition of rain forest fringes in the Moluccan islands of eastern Indonesia." (p. 559)
- 1689 Feeny, D., 1988.** Agricultural expansion and forest depletion in Thailand, 1900-1975. In: Richards, J. F. and Tucker, R. P., eds. *World deforestation in the twentieth century*. Durham, N.C., Duke University Press. pp. 112-143.
- 1690 Feeny, D., 1984.** Agricultural expansion and forest depletion in Thailand, 1900-1975. Yale University, Economic Growth Center, Center Discussion Paper no. 458. 65 pp.
Examines the extent and causes of deforestation in Thailand, and traces the evolution of Thai forest and conservation policy.
- 1691 Hutterer, K. L., 1988.** The prehistory of the Asian rain forests. In: Denslow, J. S. and Padoch, C., eds. *People of the tropical rain forest*. Berkeley, University of California Press. pp. 63-72.

- 1692 Kengen, S., 1992.** Forest management in Brazil: A historical perspective. In: Steen, H. K. and Tucker, R. P., eds. *Changing tropical forests: Historical perspectives on today's challenges in Central and South America.* [Durham, NC] Forest History Society. pp. 176-184.
This paper "deals with the exploitation of the Brazilian forest resources within the context of its process of development...." (p. 176)
- 1693 Konrad, H. W., 1992.** Tropical forest policy and practice during the Mexican Porfiriato, 1876-1910. In: Steen, H. K. and Tucker, R. P., eds. *Changing tropical forests: Historical perspectives on today's challenges in Central and South America.* [Durham, NC] Forest History Society. pp. 123-143.
Discusses forest policy in Mexico under Porfirio Diaz.
- 1694 Kummer, D. M., 1992.** Measuring the forest decline in the Philippines: An exercise in historiography. *Forest and Conservation History* 36(4):185-189.
Reviews data sources and forest types and discusses the pre-1950 history of forest cover. The history of forest decline in the post-1950 period provides a basis for the calculation of deforestation rates from 1950 to 1987.
- 1695 Meggers, B. J., 1988.** The prehistory of Amazonia. In: Denslow, J. S. and Padoch, C., eds. *People of the tropical rain forest.* Berkeley, University of California Press. pp. 53-62.
- 1696 Parsons, J. J., 1975.** The changing nature of New World tropical forests since European colonization. In: *Proceedings of International Meeting on the Use of Ecological Guidelines for Development in the American Humid Tropics, Caracas, 1974.* Morges, Switzerland, Int. Union for Cons. of Nature and Nat. Res., IUCN Publ. N.S. no. 31. pp. 28-38.
- 1697 Ritchie, R., 1989.** Seeing the rainforests in 19th-century Australia. Sydney, Rainforest Publishing. 171 pp.
This book analyzes "the images and texts from the period to reveal the prevalent attitudes and perceptions." (p. 9)
- 1698 Roth, D. M., 1983.** Philippine forests and forestry: 1565-1920. In: Tucker, R. P. and Richards, J. F., eds. *Global deforestation and the nineteenth-century economy.* Durham, NC, Duke University Press. pp. 30-49.
Discusses the history of deforestation in the Philippines to 1920.
- 1699 Sieber, M., 1985.** History of the West African rain forest. In: Schuler, A., ed. *History of forest utilization and forestry in mountain regions.* Beiheft zur Schweizerischen Zeitschrift für Forstwesen 74:267-271.
Most of the observations and descriptions in this paper are based on the Ghanaian rain forest.

- 1700 Steen, H. K. and Tucker, R. P., editors, 1992. Changing tropical forests: Historical perspectives on today's challenges in Central and South America. [Durham, NC] Forest History Society. 303 pp.**
Proceedings of a conference sponsored by the Forest History Society and IUFRO Forest History Group.
- 1701 Tucker, R., 1992. North Americans and tropical forestry. Inner Voice 4(3):4,11.**
A brief history of tropical rainforest use and deforestation.
- 1702 Tucker, R. P., 1990. Five hundred years of tropical forest exploitation. In: Head, S. and Heinzman, R., eds. Lessons of the rainforest. San Francisco, Sierra Club Books. pp. 39-52.**
Looks at two facets of the Western world's exploitation of tropical forests: Plantation agriculture and tropical logging.
- 1703 Tucker, R. P., 1992. Foreign investors, timber extraction, and forest depletion in Central America before 1941. In: Steen, H. K. and Tucker, R. P., eds. Changing tropical forests: Historical perspectives on today's challenges in Central and South America. [Durham, NC] Forest History Society. pp. 265-276.**
- 1704 Tucker, R. P., 1988. The depletion of India's forests under British imperialism: Planters, foresters, and peasants in Assam and Kerala. In: Worster, D., editor. The ends of the earth: Perspectives on modern environmental history. Cambridge, Cambridge University Press. pp. 118-140.**
A history of India's forests.
- 1705 Wigston, D. L., 1984. Historical aspects of forestry problems in Papua New Guinea. In: Steen, H. K., ed. History of sustained-yield forestry: A symposium. Santa Cruz, Forest History Society. pp. 306-312.**

BIBLIOGRAPHIES AND GENERAL WORKS



- 1706 Australian Heritage Commission, 1989.** Australia's native forests. Canberra, Australian Government Publishing Service, Australian Heritage Commission Bibliography Series no. 1. 144 pp.
Includes references to publications relating to the tropics.
- 1707 Azam, M. A., 1990.** A selected and annotated bibliography on agroforestry in the tropical developing countries. Yale School of Forestry and Environmental Studies, Tropical Resources Institute, TRI Working Paper no. 45. 52 pp.
- 1708 Bruenig, E. F., editor, 1982.** Transactions of the Third International MAB-IUFRO Workshop on Ecosystems Research, Kyoto, Sept. 9-10, 1981. Bonn, German National Committee for the Unesco Program "Man and the Biosphere (MAB)." 138 pp.
The first part of the volume includes papers from MAB Project 1: "Tropical and Subtropical Forest Ecosystems" on "societal values of tropical forests, identification, perception, and attitudes."
- 1709 Buckland, P. and Armitage, I., 1986.** Tropical forestry in the South Pacific: A bibliography. Wellington, New Zealand Forest Service. 50 pp.
A selected bibliography arranged by subject according to the Oxford Decimal Classification System. Includes references of relevance to forest management, forest products development, and wood utilization in developing South Pacific Island countries.
- 1710 Caulfield, C., 1985.** In the rainforest. New York, Knopf. 304 pp.
- 1711 Clewis, B., 1989.** Tropical rainforests - Destruction and conservation: A selected bibliography. Monticello, IL, Vance Bibliographies, Public Administration Series: Bibliography P2728. 17 pp.
- 1712 Combe, J., Jimenez Saa, H., and Monge, C., compilers, 1981.** Bibliography on tropical agroforestry. Turrialba, Costa Rica, Centro Agronomico Tropical de Investigacion y Ensenanza, Serie Bibliotecologia y Documentacion, Bibliografia no. 6. 67 pp.
Includes 680 references.
- 1713 Dalton, S., Bernard, G., and Mitchell, A., 1990.** Vanishing paradise: The tropical rainforest. Woodstock, NY, Overlook Press. 176 pp.
A pictorial account of the rainforests of South America.

- 1714 Dwyer, A., 1990.** Into the Amazon: The struggle for the rain forest. San Francisco, Sierra Club Books. 250 pp.
An account of the author's travels in the Amazon Basin, describing the devastation of the forest, and the people who live there, in particular, Chico Mendes and other rubber tappers.
- 1715 Flick, J., compiler, 1952.** The forests of continental Latin America (including European possessions): A bibliography of selected literature, 1920-1950. U.S. Dept. of Agriculture, Bibliographical Bulletin no. 18. 193 pp.
Arranged by country, with an author/subject index.
- 1716 Flint, E. P. and Richards, J. F., 1989.** Bibliography on tropical rain forests and the global carbon cycle. Vol. 2: South Asia. Oak Ridge, TN, Oak Ridge National Laboratory, ORNL/CDIAC-24/v 2.
- 1717 Food and Agriculture Organization, 1970.** Report of the second session of the FAO Committee on Forest Development in the Tropics, Rome, Oct. 21-24, 1969. Rome, Food and Agriculture Organization, FO:FDT-69 Rep. 162 pp.
- 1718 Food and Agriculture Organization, 1968.** Report of the first session of the FAO Committee on Forest Development in the Tropics, Rome, Oct. 18-20, 1967. Rome, Food and Agriculture Organization, FO/FDT/67 Rep. 170 pp.
- 1719 Furtado, J. I., 1979.** The status and future of the tropical moist forest in Southeast Asia. In: MacAndrews, C. and Chia, L. S., eds. Developing economies and the environment: The Southeast Asian experience. Singapore, McGraw Hill International. pp. 73-120.
"The status and future of the tropical moist forests in Southeast Asia is reviewed in terms of its resource base, the nature of development, environmental impacts arising from development, and its future prospects." (p. 74)
- 1720 Gates, J. P., 1990.** Ecology of tropical rainforests, January 1984-December 1989. U.S. National Agricultural Library, Quick Bibliography Series: QB90-50. 25 pp.
Includes 264 citations from Agricola.
- 1721 Golley, F. B. and Medina, E., editors, 1975.** Tropical ecological systems: Trends in terrestrial and aquatic research. New York, Springer-Verlag. Ecological Studies vol. 11. 398 pp.
- 1722 Griffith, A. L. and Stuart, B. E. St. L., 1955.** An East African forest bibliography. [Nairobi] East African Agriculture and Forestry Research Organization. 188 pp.
Arranged according to the Oxford System of Decimal Classification.
- 1723 Hall, C. A. S. et al., 1988.** Bibliography on tropical rain forests and the global carbon cycle. Vol. 1: An introduction to the literature. Oak Ridge, TN, Oak Ridge National Laboratory, ORNL/CDIAC-24/v 1. 161 pp.
Co-authors are: S. Brown, F. M. O'Hara, Jr., P. B. Bogdonoff, D. Barshaw, E. Kaufman, and S. Underhill.

- 1724 Hamilton, L. S., 1990.** Tropical forests: Identifying and clarifying issues. An overview paper on issues for the Tropical Forests Task Force of the Pacific Economic Cooperation Council, Kuala Lumpur, Sept. 25-29, 1990. Honolulu, East-West Center, Environment and Policy Institute. 29 pp.
- 1725 Harry, L. S., 1975.** Forests and forestry: A select bibliography, with special reference to Guyana. Georgetown, Guyana, National Science Research Council. 99 pp.
- 1726 Head, S. and Heinzman, R., editors, 1990.** Lessons of the rainforest. San Francisco, Sierra Club Books. 275 pp.
- 1727 Jacobs, M., 1988.** The tropical rain forest: A first encounter. Edited by Remke Kruk et al., with a chapter on tropical America by R. A. A. Oldeman. New York, Springer-Verlag. 295 pp.
Includes a chapter on damage and destruction and another on protection.
- 1728 Jonkers, W. B. J. and Glastra, R., editors, 1989.** Colombia, Indonesia and Ivory Coast: Selected abstracts 1986-1988. Ede, Netherlands, Tropenbo. Foundation. Tropenbos Technical Series no. 3. 27 pp.
Includes abstracts of selected articles and reports on field studies of the Tropenbos Programme and associated projects published between 1986 and 1988.
- 1729 Jordan, C. F., editor, 1987.** Amazonian rain forests: Ecosystem disturbance and recovery. Case studies of ecosystem dynamics under a spectrum of land use intensities. New York, Springer-Verlag. Ecological Studies vol. 60. 133 pp.
- 1730 Kartawinata, K., 1972.** A provisional bibliography on tropical forest ecosystems. Bogor, Indonesia, BIOTROP. 34 pp.
- 1731 Lawton, R. M., editor, 1976.** State of knowledge report on tropical forest ecosystems of Anglophone Africa. [Surbiton, Surrey, U.K., Ministry of Overseas Development, Land Resources Division.] 156 pp.
Includes some information on the conservation and management of tropical forests.
- 1732 Lieth, H. and Werger, M. J. A., editors, 1989.** Tropical rain forest ecosystems: Biogeographical and ecological studies. New York, Elsevier. Ecosystems of the World vol. 14B. 713 pp.
- 1733 London Science Museum, Science Library, 1963.** Tropical rain forests. Science Library Bibliographical Series no. 784. 7 pp.
Supplement to no. 681, 1943-1962.
- 1734 Longman, K. A. and Jenik, J., 1987.** Tropical forest and its environment. 2nd ed. London, Longman. 347 pp.
"The aim of this book is to summarize available biological information on the nature of tropical forests and how they function, and to indicate some of the practical implications for anyone using or managing tropical forest land." (p. vii)

- 1735 Mabberley, D. J., 1992.** Tropical rain forest ecology. 2d ed. New York, Chapman and Hall. 300 pp.
- 1736 McDermott, M. J., editor, 1988.** The future of the tropical rain forest: Proceedings of an international conference, Oxford, June 27-28, 1988. Oxford, Oxford Forestry Institute. 110 pp.
Includes summaries of conference papers arranged under 4 broad categories: (1) Historical perspective and conservation issues; (2) the Tropical Forestry Action Plan; (3) producers and consumers of tropical timber; and (4) the British initiative - what can we do?
- 1737 Moran, E. F., 1981.** Developing the Amazon. Bloomington, Indiana University Press. 292 pp.
Includes chapters on tropical rain forest ecosystems and on the use of forest resources in the Transamazon.
- 1738 Nichol, J., 1990.** The mighty rain forest. London, David and Charles. 200 pp.
Includes information on the destruction of rainforests and a chapter on organizations working in rainforest conservation. Also includes chapters on the people of the rainforest, animals of the rainforest, and plants of the rainforest.
- 1739 Phillips, J., 1967.** The development of agriculture and forestry in the tropics: Patterns, problems, and promise. Revised edition. New York, Praeger. 221 pp. + map.
Includes a chapter on forest conservation and management.
- 1740 Putz, F. E. and Pinard, M., 1991.** Natural forest management in the American tropics: An annotated bibliography. U.S. Agency for International Development; U.S.D.A. Office of International Cooperation and Development. 340 pp.
The bibliography is divided into two parts: Part 1 is a list of references to literature relating to natural forest management; part 2 is a listing of research projects. Each part has indexes for geographical area, general descriptors, silvicultural descriptors, and species/ecosystem.
- 1741 Rao, Y. S., 1991.** Tropical forestry: An Asia-Pacific perspective. In: Pacific Rim Forestry Bridging the world: Proceedings of the Society of American Foresters National Convention, San Francisco, Aug. 4-7, 1991. Bethesda, MD, SAF. pp. 25-31.
Provides a brief review of forest policies, legislation and development planning; forest resources and their management; forest products and industries; forest products other than wood; forestry institutions; and the implementation of the Tropical Forestry Action Plan.
- 1742 Richards, P. W., 1952.** The tropical rain forest: An ecological study. Cambridge, Cambridge University Press. 450 pp.
- 1743 Richards, P. W., 1977.** Tropical forests and woodlands: An overview. *Agro-Ecosystems* 3(3):225-238.
Presents a survey of the state of the world's tropical forests and woodlands as it was in 1974.

- 1744 Royal Tropical Institute, 1990.** Environmental management in the tropics: An annotated bibliography, 1985-1989. Amsterdam, Royal Tropical Institute, Dept. of Information and Documentation. 236 pp.
Based on Abstracts on Tropical Agriculture (vols. 10-14) and Abstracts on Rural Development in the Tropics (vols. 1-4). Includes references on agroforestry, forest management, energy and fuelwood.
- 1745 Sterringa, J. T., 1975.** Bibliography on tropical silviculture and forest ecology, 1924-1973 (with emphasis on the world's most important tropical tree species.) Turrialba, Costa Rica, Instituto Interamericano de Ciencias Agricolas, Documentacion e Informacion Agricola no. 43. 282 pp.
A bibliography of over 4000 references, alphabetically arranged by author, with subject and species indexes.
- 1746 Taylor, C. J., 1962.** Tropical forestry, with particular reference to West Africa. New York, Oxford University Press. 163 pp.
A general account covering forest influences, policy and law, silvicultural systems, management, education, research, and administration.
- 1747 Trinidad and Tobago Forestry Division Library, 1980.** Forestry in Trinidad and Tobago: A select bibliography compiled on the occasion of the 11th Commonwealth Forestry Conference, Trinidad, September, 1980. St. James, Ministry of Agriculture, Lands and Fisheries. 24 pp.
- 1748 U.N. Environment Programme, 1980.** Meeting of Experts on Tropical Forests, Libreville, Feb. 25-Mar. 1, 1980: Overview document. UNEP/WG.35/4. 70 pp.
Presents a review and analysis of the tropical forest situation, including a section on the depletion of tropical forests.
- 1749 Unesco, UNEP, and FAO, 1978.** Tropical forest ecosystems: A state-of-knowledge report. Paris, Unesco. Natural Resources Research no. 14. 683 pp.
Part I includes chapters on the description, functioning, and evolution of tropical forest ecosystems; part II covers the patterns of use of tropical forest ecosystems; part III consists of case studies.
- 1750 Vaclav, E., 1973.** Bibliography of the studies on tropical and subtropical forestry published by the Czechoslovak authors. *Silvaecultura Tropica et Subtropica* 3:147-168.
Arranged by author, with subject and geographic indexes.
- 1751 Velasco, A. B. et al., editors, 1984.** Proceedings of the First ASEAN Forestry Congress, Manila, Oct. 10-15, 1983. Quezon City, Philippines, Bureau of Forest Development. 7 vols. in 3 (956 pp.).
Contents: Book I, vol. 1, Executive summary; Book II, vol. 2, Management of natural forests, vol. 3, Industrial forest plantations, vol. 4, Utilization of forest resources; Book III, vol. 5, Social forestry technologies, vol. 6, Management of national parks and other protected areas, and vol. 7, Management of wildlife resources and reserves.

- 1752 Villegas, C. and Coto Royo, L., 1979.** [Forestry bibliography of Tropical America.] Turrialba, Costa Rica, CIDIA, Biblioteca y Terminal de Servicios, IICA, Documentación e Información Agrícola no. 69. 277 pp.
Arranged by country, with author, species, and subject indexes.
- 1753 Villegas, C., 1975.** [Silviculture of tropical forests: A bibliography.] Turrialba, Costa Rica, Instituto Interamericano de Ciencias Agrícolas, Documentación e Información Agrícola no. 44. 92 pp.
Contains 1527 references to world literature on tropical forestry covering the period 1963-1974. The subject arrangement is according to subheadings under Section 2 (Silviculture) of the Oxford System of Decimal Classification for Forestry. Includes author and species indexes.
- 1754 Webb, L. J. and Kikkawa, J., editors, 1990.** Australian tropical rainforests: Science, values, meaning. East Melbourne, CSIRO. 185 pp.
This book is based on contributions to the 57th ANZAAS Congress, Townsville, Aug. 24-28, 1987. The contributions are arranged under four headings, the first two relating to the ecosystem, the last two to human relationships to the ecosystem and proper management of the environment.
- 1755 Westoby, J., 1989.** Introduction to world forestry: People and their trees. Oxford, Basil Blackwell. 228 pp.
Includes chapters on the history of the world's forests, the present state of the world's forests, issues relating to the tropical forests, and a section on "making trees serve people" which addresses social forestry, agroforestry, and forestry aid.
- 1756 Whitmore, T. C., 1990.** An introduction to tropical rain forests. New York, Oxford University Press. 226 pp.
This book looks at all aspects of tropical rain forests and mankind's impact upon them.
- 1757 Whitmore, T. C., 1984.** Tropical rain forests of the Far East. 2nd ed. Oxford, Clarendon Press. 352 pp.
The book is divided into five sections: Introduction (including information on flora, fauna, and the rain forest ecosystem); climate, moisture stress, and seasonality; growth of the forest; kinds of forest; and, man and the tropical rain forest.

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