

For Educators, Gardeners, Farmers, Foresters, and Landscapers  
**Agroforestry Guides for Pacific Islands**

“Well-researched, concise, user-friendly...an invaluable practical resource for those working to conserve and expand the use of trees in agricultural systems.”

—*APANews*, The Asia-Pacific Agroforestry Newsletter  
FAO Regional Office, Bangkok, Thailand

“A significant contribution to public education, advancing the cause of integrated agriculture and forestry...a resource of lasting value.”

—*The Permaculture Activist*, North Carolina

“A most excellent handbook...a wonderful resource.”

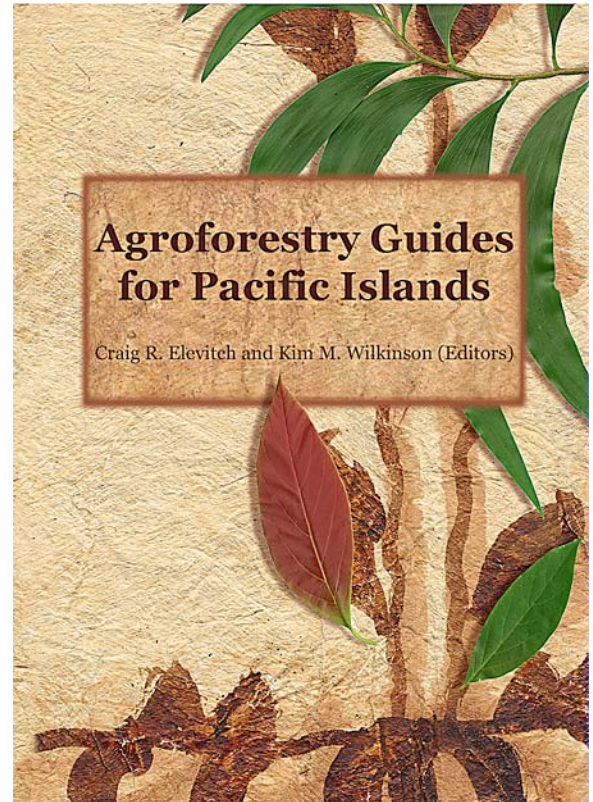
—Developing Countries Farm Radio Network, Toronto, Canada

“Eloquently makes a case for reintroducing and emphasizing trees in our island agriculture.”

—Dr. Bill Raynor, Program Director, The Nature Conservancy, Pohnpei, Federated States of Micronesia

“Provides a real clearinghouse on traditional and modern agroforestry not only for Pacific Islands, also very useful for other regions.”

—*ILEIA Newsletter for Low External Input and Sustainable Agriculture*, The Netherlands



**Purchase the book at <http://www.agroforestry.net/afg/>**

Agroforestry Guides for Pacific Islands  
edited by Craig R. Elevitch and Kim M. Wilkinson

Price: \$24.95 (plus shipping)

Availability: Usually ships within one business day.

Paperback - 240 pages, illustrated and fully indexed

Release date: September, 2000

ISBN: 0970254407

Publisher: Permanent Agriculture Resources, P.O. Box 428, Holualoa, HI,  
96725, USA. Tel: 808-324-4427, Fax: 808-324-4129, email:  
[par@agroforestry.net](mailto:par@agroforestry.net)

# Information Resources for Pacific Island Agroforestry

by Craig R. Elevitch and Kim M. Wilkinson



## Information Resources for Pacific Island Agroforestry

**Abstract:** Agroforestry is a traditional Pacific Island practice of integrating trees with crops and/or animals. Starting in the colonial period, trees were systematically removed from agricultural systems in the desire to maximize outputs from cash crops. However, the short-term profits were often offset by long-term environmental problems, escalating dependence on chemical fertilizers and inputs, and high levels of economic risk. Today, integrating trees with agricultural production is known to be a beneficial practice, one that can combine continuous agricultural production with conservation and land improvement.

Agroforestry is an information-intensive practice. Mixed systems are more complex than single-species plantings, and advanced planning is necessary to minimize competition and optimize the benefits of trees in agricultural systems. This guide compiles sources of practical information for Pacific Island agroforesters. Organizations, books, periodicals, web links, and government agencies that offer information and/or support for practitioners are described.

**Keywords:** agroforestry, organizations, books, periodicals, handbooks, guides, web links, practitioner resources

### Contents

Introduction to Pacific Island Agroforestry	3
<i>What Is Agroforestry?</i>	3
<i>Reversing the Trend Towards Monocultures</i>	3
<i>The Benefits of Agroforestry in the Pacific Islands</i>	4
<i>The Importance of Planning Agroforestry Systems</i>	5
Organizations	6
Titles	9
Species Information	14
Book Sources	17
Periodicals	18
Web Links	19
Local Resources	20
Acknowledgments	21
About the Authors	21
References	21
Guides	23

---

**Authors:** Craig R. Elevitch and Kim M. Wilkinson, **Illustrator:** Christi A. Sobel

**Reproduction:** We encourage you to share this information with others. All or part of this publication may be reproduced for noncommercial educational purposes only, with credit given to the source. For commercial reproductions, contact the publisher. © 2000 Permanent Agriculture Resources. All rights reserved.

**Electronic distribution:** Download this publication and others in the series at <http://www.agroforestry.net>

**Publisher:** Permanent Agriculture Resources, P.O. Box 428, Holualoa, HI 96725 USA; Tel: 808-324-4427; Fax: 808-324-4129; E-mail: [par@agroforestry.net](mailto:par@agroforestry.net), Web site: <http://www.agroforestry.net>

**Citation:** Elevitch, C.R., and K.M. Wilkinson. 2000. Information Resources for Pacific Island Agroforestry. Agroforestry Guides for Pacific Islands #1. Permanent Agriculture Resources, Holualoa, Hawaii, USA. Web site: <http://www.agroforestry.net>

**Sponsor:** Publication of this guide was made possible through a grant from the U.S. Department of Agriculture's Western Region Sustainable Agriculture Research and Education (WSARE) Program. This material is based upon work supported by the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, and Agricultural Experiment Station, Utah State University, under Cooperative Agreement under 98-COOP-1-6481.

000613



# Introduction to Pacific Island Agroforestry

Agroforestry has been practiced in the Pacific Islands for thousands of years. The continued appropriate and well-managed use of trees in agricultural systems can serve as an effective component for sustainable economic development and environmental protection in the region. This guide describes practical resources and information materials for Pacific Island agroforestry practitioners.

## What Is Agroforestry?

Agroforestry is a modern name for an ancient approach to land-use combining trees with other crops and/or animals. Some popular definitions of agroforestry are:

Agroforestry is a dynamic, ecologically based natural resources management system that, through the integration of trees in farmland and rangeland, diversifies and sustains production for increased social, economic, and environmental benefits for land users at all levels. (ICRAF Agroforestry Today 9:1:1997)

Agroforestry is any agricultural system (agro-ecosystem) in which planted or protected trees are seen as economically, socially, or ecologically integral to the system. (Clarke and Thaman 1993)

Agroforestry is an intensive land management system that optimizes the benefits from the biological interactions created when trees and/or shrubs are deliberately combined with crops and/or animals. (Association for Temperate Agroforestry 1997)

Agroforestry is a sustainable land-management system which increases the overall yield of the land, combines the production of crops (including tree crops) and forest plants and/or animals simultaneously or sequentially, on the same unit of land, and applies management practices that are compatible with the cultural practices of the local population. (Nair 1989)

By all these definitions, an agroforestry system:

- involves two or more species, at least one of which is a tree;
- yields two or more outputs;
- has a production cycle of longer than one year; and
- has significant interaction (economic and/or environmental) between trees and the other components (Nair 1993).

Some agroforestry systems are very simple, involving just a few species. Other agroforestry systems are more complex, resembling multi-storied, diverse forest ecosystems.

## Reversing the Trend Towards Monocultures

Starting in the colonial era and intensifying in the 20th century, Pacific Island agroforestry systems were rapidly displaced in favor of monocultures (single-species plantings). It was thought that trees in mixed species systems interfered with production, and that outputs could be maximized by converting mixed plantings into single-species cropping systems. Increasing desire for consumer goods and increasing access to markets further intensified pressures to maximize outputs and plant cash crops. Single-species agricultural systems and forestry plantations, usually of exotic species, were promoted, usually at the expense of the traditional agroforestry systems. This trend has been called “agrodeforestation,” the removal of agroforestry systems for large-scale cash crops (Clarke and Thaman 1993).

Many now agree that the rapid conversion to monocropping systems was short-sighted. The short-term profits gained from intensive, single-species plantings are often negated by long-term environmental degradation and high risks. Intensive cropping systems tend to be costly and environmentally damaging, requiring high inputs of fertilizers and chemicals to sustain productivity. Single-species plantings involve a high level of economic risk, because if market conditions change the single crop may not be profitable. They also involve a high level of ecological risk, because one disease or pest problem can devastate production (AIS 1992).

## The Benefits of Agroforestry in the Pacific Islands

Population growth, increasing economic needs, environmental degradation, and a shortage of arable land make the development of sustainable and efficient agricultural systems crucial. Agroforestry practices can improve productivity and reduce inputs, while mitigating some of the environmental damage caused by the past processes of deforestation and the removal of trees from the landscape.

### Agroforestry systems make more efficient use of natural resources:

Soil nutrients	Trees promote nutrient cycling and efficient nutrient use; nutrient status is increased through nitrogen-fixation and the uptake of deep soil nutrients.
Sun	Multi-storied cropping systems intercept and use sunlight at all levels.
Water	Trees can increase water availability in the soil by reducing runoff and evapotranspiration, while increasing water infiltration and soil water-holding capacity.

Source: AIS 1992, Young 1997

### Agroforestry systems provide a more favorable environment for sustained production:

Shade	Filtered shade conserves water, reduces evapotranspiration, keeps topsoil cool, and helps maintain beneficial microbial activity.
Wind protection	Trees protect crops from wind damage and soil from wind erosion and drying.
Soil conservation	Tree root and mycorrhizal systems reduce nutrient leaching, bind soil, and prevent erosion. Tree leaf litter enhances soil physical, chemical, and biological conditions which makes soil more resistant to erosion and more able to absorb and hold water.
Nutrient cycling	Through nitrogen-fixing trees and nutrient uptake from deep soil layers, trees promote more closed nutrient cycling and more efficient use of nutrients.
Habitat diversity	Trees provide habitats for birds, insects, and other animals that help maintain pest/predator balance in the system.

Source: AIS 1992, Young 1997

---

### Agroforestry systems can be more profitable:

---

Reduced expenses	Through nutrient cycling and soil and water conservation, trees reduce the need to purchase fertilizer and water. Trees may also reduce the need for pesticides by providing habitat for pest predators.
Diversified products	Mixed cropping systems typically have two or more economic products, reducing dependence on market conditions for a single crop.
Continuous flow of products	Agroforestry systems often combine short-term and long-term crops, which can lead to a high level of total productivity and year-round production.
Greater self-reliance	Agroforestry can reduce farmer's dependence on purchased products and resources, as well as reducing vulnerability to changing market conditions.

---

### Agroforestry systems can improve the environment:

---

Reduced pressure on natural forests	On-farm production of wood and other forest products reduces pressure to exploit natural forests.
Species diversity	Trees and mixed systems provide habitat and support biodiversity (wildlife, microlife, etc.)
Resource conservation	Trees can improve conservation of soil, nutrients, and water in the landscape.
Carbon sequestration	Trees store carbon from the air, helping to reduce carbon dioxide pollution and global climate change.
Decreased pollution	Nutrient cycling of trees may reduce the use of chemical fertilizers, thus reducing chemical and soil run-off.

---

### Agroforestry systems are culturally compatible:

---

Locally-based	Agroforestry systems incorporate species and techniques that have been used traditionally in Pacific Islands for many generations, in some cases for thousands of years.
Adaptable	Due to farmer experience and acceptance over many decades, traditional systems and species provide a strong, locally-based framework for future agroforestry development (Thaman and Whistler, 1996).
Acceptable	By combining production with conservation and land improvement, the agroforestry approach can increase the acceptability and adoption of sustainable practices (Young 1997).

---

## The Importance of Planning Agroforestry Systems

Agroforestry systems require careful advanced planning. Mixed systems are more complex than single-species monocultures. It is often difficult to predict the results of crop combinations and interactions, and the systems evolve and change over time. Those embarking on an agroforestry project need to be aware of the possible adverse effects of combining trees with crops. Compared to the relative abundance of data from monocultures, there is a scarcity of scientifically-based

practical information about mixed systems. There is also a shortage of information about the economic trade-off of agroforestry systems. Managing diverse, dynamic systems and marketing diverse products is a challenge. For these reasons, agroforestry systems require more up-front planning, research, and risk assessment than a simple single-species planting.

Information leads to informed decisions that improve the potential for a successful agroforestry project. What follows is a compilation of practical resources available for the Pacific Island agroforestry practitioner. Organizations, books, guides, periodicals, and web sites are included.

## Organizations

**Appropriate Technology Transfer for Rural Areas (ATTRA)** provides technical assistance with primarily a temperate orientation to farmers, extension agents, market gardeners, agricultural researchers, and other ag professionals in the US. Address: ATTRA, P.O. Box 3657, Fayetteville, AR 72702, USA; Tel: 800-346-9140; Web site: <http://www.attra.org/attra-pub/index.html>

**Agricultural Development in the American Pacific (ADAP)** addresses common Pacific Island-based agriculture and community issues through cooperative research, extension, and instruction programs that are culturally appropriate, socially acceptable, economically viable, and environmentally compatible. Address: ADAP Home Office, College of Tropical Agriculture and Human Resources, 3050 Maile Way, Gilmore Hall 213, University of Hawaii, Honolulu, Hawaii 96822 USA; Tel: 808-956-8140; Fax: 808-956-6967; E-mail: [adap@hawaii.edu](mailto:adap@hawaii.edu); Web site: <http://www2.ctahr.hawaii.edu/adap/>

**The Association for Temperate Agroforestry (AFTA)** is a membership organization working for technical innovation and adoption of agroforestry in the temperate zone through a variety of research and educational activities. Address: School of Natural Resources, 1-30 Agriculture Bldg., University of Missouri, Columbia, MO 65211, USA; E-mail: [afta@missouri.edu](mailto:afta@missouri.edu); Web site: <http://web.missouri.edu/~afta/>

**Australian Centre for International Agricultural Research (ACIAR)** works to improve the well-being of people in developing countries and Australia through international collaboration in research and related activities that develop sustainable agricultural systems and appropriate strategies for natural resource management. Address: The Director, ACIAR, GPO Box 1571, Canberra ACT 2601, Australia; Tel: +61-2-6217 0500; Fax: +61-2-6217 0501; E-mail: [aciara@aciara.gov.au](mailto:aciara@aciara.gov.au); Web site: <http://www.aciara.gov.au/>

**CAB International (CABI)** works to improve human welfare worldwide through the dissemination, application, and generation of scientific knowledge in support of sustainable development, with emphasis on agriculture, forestry, human health, and the management of natural resources. Address: CAB International, Wallingford, Oxfordshire, OX10 8DE, UK; Tel: +44-1491 832111; Fax: +44-1491 833508; E-mail: [cabi@cabi.org](mailto:cabi@cabi.org); Web site: <http://www.cabi.org/>

**Centro Agronómico Tropical de Investigación y Enseñanza (CATIE)** conducts scientific research and postgraduate education applied to the development, conservation, and sustainable use of natural resources. Address: CATIE, 7170, Turrialba, Costa Rica; Tel: +506 556-6431; Fax: +506 556-1533; Web site: <http://www.catie.ac.cr/catie/>

**Danida Forest Seed Centre (DFSC)** provides information resources, training, and consultancies on seed procurement, tree improvement, and gene resource conservation. Address: DFSC, Krogerupvej 21, 3050 Humlebaek, Den-

mark; Tel: +45-49 19 05 00; Fax: +45-49 16 02 58;  
E-mails: dfscdk@post4.tele.dk, dfsc@sns.dk; Web site: <http://www.dfsc.dk>

**Educational Concerns for Hunger Organization (ECHO)** has many online publications related to agroforestry, including an extensive offering of hard-to-find publications in its online bookstore. Address: ECHO, 17430 Dur-rance Rd., N. Ft. Myers, FL 33917, USA; Tel: 941-543-3246; Fax: 941-543-5317; E-mail: [echo@echonet.org](mailto:echo@echonet.org); Web site: <http://www.echonet.org/>

**European Tropical Forest Research Network (ETFRN)** promotes the conservation and wise use of forests and woodlands in tropical and subtropical countries. Address: European Tropical Forest Research Network, c/o The Tropenbos Foundation, P.O. Box 232, 6700 AE Wageningen, The Netherlands; Tel: +31-317-495516; Fax: +31-317-495521; E-mail: [etfrn@iac.agro.nl](mailto:etfrn@iac.agro.nl); Web site: <http://www.etfrn.org/etfrn/index.html>

**Evergreen Trust** promotes the use of trees in Africa. Address: 10 Barley Mow Passage, Chiswick, London W4 4PH, England, UK; Tel: +44-181-742 7267; Fax: +44-181-987 9377; E-mail: [evergreentrust@psilink.co.uk](mailto:evergreentrust@psilink.co.uk); Web site: <http://www.psiweb.co.uk/evergreentrust/navigate.html>.

**Farm, Community, and Tree Network (FACT Net)** is dedicated to stimulating the use of multipurpose trees. FACT Net offers many publications at a reasonable cost, including comprehensive fact sheets on many important agroforestry tree species. Address: FACT Net, Winrock International, 38 Winrock Drive, Morrilton, Arkansas 72110-9370, USA; Tel: 501-727-5435; Fax: 501-727-5417; E-mail: [forestry@winrock.org](mailto:forestry@winrock.org); Web site: <http://www.winrock.org/forestry/factnet.htm>

**The Forest Garden Initiative Program** supported by Counterpart International is developing a model silvicultural system that fosters the restoration of degraded land through the development of family-owned forest rural gardens around the world. Address: Counterpart International, Inc., 1200 18th Street NW, Suite 1100, Washington, DC 20036, USA; Tel: 202-296-9676; Fax: 202-296-9679; E-mail: [info@counterpart.org](mailto:info@counterpart.org); Web sites: <http://www.forestgarden.org/>, <http://www.counterpart.org/>

**The Forestry Programme** of the Food and Agriculture Organization of the United Nations (FAO) addresses how to use trees, forests, and related resources to improve people's economic, environmental, social, and cultural conditions while ensuring that resources meet the needs of future generations. Many useful publications are available online. Address: Publications and Information Coordinator, Forestry Department, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, 00100 Rome, Italy; Tel.: +39-6-57054778; Fax: +39-6-57052151; E-mail: [Forestry-www@fao.org](mailto:Forestry-www@fao.org); Web site: <http://www.fao.org/fo/>

**Forest, Trees and People Programme (FTPP)** supports rural populations participating in developing forest resources. Address: FTTP Network, SLU Kontakt, Swedish University of Agricultural Sciences (SLU), Box 7034, 750 07 Uppsala, Sweden; Tel. +46 18 672001; Fax: +46 18 671980; E-mail: [FTTP.Network@kontakt.slu.se](mailto:FTTP.Network@kontakt.slu.se); Web site: <http://www-trees.slu.se/>

**International Center for Research in Agroforestry (ICRAF)** has extensive worldwide programs in agroforestry research and training. Address: ICRAF, P.O. Box 30677, Nairobi, Kenya; Tel: +254-2-521450 or +1 650 833 6645; Fax: +254-2-521001 or +1-650-833-6646; E-mail: [ICRAF@cgiar.org](mailto:ICRAF@cgiar.org); Web site: <http://www.cgiar.org/icraf/>



**The International Institute of Rural Reconstruction (IIRR)** conducts workshops and publishes popular practical works emphasizing participatory approaches to development and agroforestry. Address: Yen Center and Headquarters, Silang, Cavite, Philippines 4118; Tel: +63-46-4142417; Fax: +63-46-4142420; E-mail: iirr@cav.pworld.net.ph; Web site: <http://www.cav.pworld.net.ph/~iirr/>

**The National Agroforestry Center (NAC)** of the US Department of Agriculture supports practices which integrate trees and agriculture and publishes many practical agroforestry materials with a temperate focus including Inside Agroforestry, a newsletter for natural resource professionals. Address: USDA Forest Service/Natural Resources Conservation Service, East Campus–UNL, Lincoln, Nebraska 68583-0822, USA; Tel: 402-437-5178; Fax: 402-437-5712; Web site: <http://www.unl.edu/nac/>

**New Forests Project (NFP)** provides developing country farmers, community organizations, and environmental groups with the training and materials necessary to begin successful reforestation projects. Address: NFP, 731 Eighth Street SE, Washington, DC 20003, USA; Tel: 202-547-3800; Fax: 202-546-4784; E-mail: icnfp@erols.com; Web site: <http://www.newforestsproject.com/>

**The Oxford Forestry Institute (OFI)** has four major groups of activities: education, research, information, and advisory services, covering all aspects of forestry with particular emphasis on tropical land use and sustainable forest management practices including the evaluation and conservation of biodiversity. Address: Department of Plant Sciences, University of Oxford, South Parks Road, Oxford OX1 3RB, UK; Tel: +44-1865-275000; Fax: +44-1865-275074; E-mail: jeff.burley@plants.ox.ac.uk; Web site: <http://www.plants.ox.ac.uk/ofi/>

**Pacific Islands Forests & Trees Support Programme (PIF&TSP)** works to strengthen national capabilities in Pacific Island countries to manage, conserve, use, and develop their forest and tree resources sustainably. Address: SPC/UNDP/AusAID/FAO SPC, Private Mail Bag, Suva, Fiji; Web site: <http://www.spc.org.nc/En/forestry.htm>

**The People and Plants Initiative** carries out applied research projects, community workshops, exchanges, and training courses with young ethnobotanists from developing countries and disseminates results and information through their People and Plants Online Program. Web site: <http://www.rbgekew.org.uk/peopleplants/index.html>

**Permanent Agriculture Resources (PAR)** carries out agroforestry education and research in the Pacific, provides workshops, and publishes Agroforestry Guides for Pacific Islands and The Overstory, a free e-mail journal. Address: Permanent Agriculture Resources, P.O. Box 428, Holualoa, HI 96725, USA; Tel: 808-324-4427; Fax: 808-324-4129; E-mail: par@agroforestry.net; Web site: <http://www.agroforestry.net>

**Sustainable Agriculture Network (SAN)** facilitates the exchange of scientific and practical information on sustainable agriculture systems using a variety of printed and electronic communications tools. Search for “agroforestry” on their web site to find helpful references on the subject. Address: SAN Coordinator, National Agricultural Library, Room 304, 10301 Baltimore Ave., Beltsville, MD 20705-2351, USA; Tel: 301-504-6425; Fax: 301-504-6409; E-mail: san@nal.usda.gov; Web site: <http://www.sare.org/san/>

**Sustainable Harvest International (SHI)** provides farmers and communities in the tropics with long-term assistance implementing environmentally and economically sustainable technologies. Address: SHI, P.O. Box 3114, Portsmouth, New Hampshire 03802-3114, USA; Tel: 603-427-0735; Fax: 603-422-

8762; E-mail: [info@sustainableharvest.org](mailto:info@sustainableharvest.org); Web site:  
<http://www.sustainableharvest.org/>

**Trees for Africa (TFA)** promotes tree planting in many situations in Africa and publishes an informative monthly newsletter, *Forestry for a Small Planet*. Address: Trees for Africa, P.O. Box 2035, Gallo Manor 2052, Gauteng, South Africa; Tel: +11-803 9750, Fax: +11-803 9604; E-mail: [trees@cis.co.za](mailto:trees@cis.co.za); Web sites: <http://www.trees.co.za>, <http://www.EduPlant.org.za>

**Trees for the Future** is a nonprofit organization initiating and supporting agroforestry self-help projects in cooperation with groups and individuals in developing countries. Address: Trees for the Future, P.O. Box 7027, Silver Spring, MD 20907-7027, USA; Tel: 800-643-0001; Fax: 301-565-5012; E-mail: [info@treesftf.org](mailto:info@treesftf.org); Web site: <http://www.treesftf.org/>

## Titles

### **Agroforestry in Australia and New Zealand**

Authors: R. Reid and G. Wilson, 1985

Publisher: Goodard and Dobson, Victoria, Australia

ISBN: 0-949200-00-X

Scientifically based practical information on how to productively integrate trees into farming systems.

### **Agroforestry in Dryland Africa**

Authors: D. Rocheleau, F. Weber, and A. Field-Juma, 1988

Publisher: ICRAF, Nairobi, Kenya

ISBN: 92-9059-049-1

This book is especially useful for field workers, researchers, and extension agents, providing guidelines for evaluating and planning agroforestry projects with community involvement. Also details a wide range of traditional and adaptive agroforestry practices in drier environments in Africa.

### **Agro-Forestry in the Pacific Islands: Systems for Sustainability**

Editors: W.C. Clark and R.R. Thaman, 1993

Publisher: United Nations University Press, Tokyo

ISBN: 92-808-0824-9

Very thorough treatment of agroforestry practices in the Pacific. Includes tables and descriptions of many traditional agroforestry species.

### **Agroforestry for Soil Management**

Author: A. Young, 1997 (Second Edition)

Publisher: CAB International, New York, New York and ICRAF, Nairobi, Kenya

ISBN: 0-85199-189-0

Now in a revised second edition, this book presents a synthesis of evidence from agriculture, forestry, and soil science, drawing on over 700 published sources dating largely from the 1990's. Very well written and accessible to practitioners and academics. Highly recommended.

### **Agroforestry for the Pacific: Fact Sheets**

- 1 Why Agroforestry
- 2 Hedgerow Intercropping for Upland Root Crop Systems
- 3 Managing Organic Matter: Composting and Mulching
- 4 Nitrogen Fixing Trees as Atoll Soil Builders
- 5 Windbreaks for the Pacific Islands

- 6 Intercropping Coconuts with Nitrogen Fixing Trees
- 7 Pasture/Livestock Production Under Coconuts
- 8 Fodder Bank Establishment and Management
- 9 Fuelwood Production in the South Pacific
- 10 Selecting and Testing Nitrogen Fixing Trees for Acid Soils
- 11 Trees and Shrubs for Agroforestry on Atolls
- 12 Seed Treatment and Inoculation
- 13 Community-based Tree Seed Production with *Desmodium rensonii* and *Flemingia macrophylla*
- 14 Seed Production Guidelines for Tropical Tree Legumes
- 15 Understory Cropping with *Pogostemon cablin*: Raw Material for Rural Enterprise
- 16 *Moringa oleifera*: A Perfect Tree for Home Gardens
- 17 *Tamarindus indica*: A Widely Adapted, Multipurpose Fruit Tree

Authors: various

Publisher: FACTNet, Winrock International, Morrilton, Arkansas

This set of 2–6 page brochures presents a wide range of valuable agroforestry information for practitioners. Download from [http://www.winrock.org/forestry/FACTPUB/AIS\\_list.html](http://www.winrock.org/forestry/FACTPUB/AIS_list.html)

### **Agroforestry Guides for Pacific Islands**

- 1 Information Resources for Pacific Island Agroforestry
- 2 Multipurpose Trees for Agroforestry in the Pacific Islands
- 3 Nontimber Forest Products for Pacific Islands: An Introductory Guide for Producers
- 4 Integrating Understory Crops with Tree Crops
- 5 Introduction to Integrating Trees into Pacific Island Farm Systems
- 6 Choosing Timber Species for Pacific Island Agroforestry
- 7 Economics of Farm Forestry: Financial Evaluation for Landowners
- 8 Multipurpose Windbreaks: Design and Species for Pacific Islands

Editors: C.R. Elevitch and K.M. Wilkinson, 2000.

Publisher: Permanent Agriculture Resources, Holualoa, Hawaii

Series of 22–50 page guides covering eight topics in Pacific Island agroforestry. Published with support from the US Department of Agriculture's Western Region Sustainable Agriculture Research and Education (WSARE) Program. The guides can be downloaded at <http://www.agroforestry.net>

### **Agroforestry Technology Information Kit (ATIK)**

Author: Various authors, 1990

Publisher: International Institute of Rural Reconstruction (IIRR), Cavite, Philippines

ISBN: 0-942717-31-7

This practical agroforestry guide details nursery techniques, seed collection, seed treatment, soil and water conservation strategies, animal systems, and more. Available from IIRR Bookstore and several other sources. Highly recommended.

### **Amaranth to Zai Holes: Ideas for Growing Food Under Difficult Conditions**

Editors: L.S. Meitzner and M.L. Price, 1996

Publisher: ECHO, North Fort Myers, Florida

ISBN: 0-9653360-0-X

While not strictly an agroforestry title, this useful book contains many practical and technical tips from extension workers and small farmers from around the

world including information on vegetables, fruits, multipurpose trees, urban gardening, and more.

### **The Dictionary of Forestry**

Editor: J.A. Helm, 1998

Publisher: Society of American Foresters, Bethesda, Maryland

ISBN: 0-939970-73-2

A comprehensive dictionary defining over 4,500 terms used in forestry and conservation.

### **Forest Gardening**

Author: R. Hart, 1991

Publisher: Green Books, Devon, UK

ISBN: 1-870098-44-7

Describes the design of predominately temperate multistory garden plantings which incorporate fruit and nut trees.

### **Glossary for Agroforestry**

Editors: P. Huxley and H. van Houten, 1997

Publisher: CTA and ICRAF, Nairobi, Kenya

ISBN: 92-9059-124-2

Includes 1,400 agroforestry terms arranged alphabetically, with extensive cross-referencing. Also available in electronic form at:

<http://www.bugwood.caes.uga.edu/glossary/>

### **Income Opportunities in Special Forest Products: Self-Help Suggestions for Rural Entrepreneurs (Agriculture Information Bulletin AIB-666)**

Authors: M.G. Thomas and D.R. Schumann, 1993

Publisher: USDA Forest Service, Washington, DC

In depth discussion of temperate special forest products (nontimber forest products) that represent opportunities for rural entrepreneurs to supplement their incomes. Order from Southern Research Station, USDA Forest Service, Blacksburg, Virginia; or download at: <http://www.sfp.forprod.vt.edu/pubs/pubs.htm>

### **An Introduction to Agroforestry**

Author: P.K.R. Nair, 1993

Publisher: Kluwer Academic Publishers, Dordrecht, The Netherlands

ISBN: 0-7923-2134-0

A widely used comprehensive textbook on agroforestry which is both practical and theoretical, covering many agroforestry practices and species. Highly recommended.

### **Non-Wood Forest Products: FAO Technical Papers**

Author: Various Authors, 1995-1997

Publisher: FAO, Rome

ISBN: Various

An excellent ten volume series on non-wood forest products and their role in integrated forestry, agroforestry, and conservation. Provides useful information on the various products, and also the basics of non-wood forest products enterprises for those products for practitioners, policy makers, and scientists. Order from FAO in Rome (see Book Sources).

### **Pacific Agroforestry: An Information Kit**

Editors: S. Rogers and P. Thorpe, 1999

Publisher: PRAP/SPC, Suva, Fiji

Covers many specific practices, techniques, and species of Pacific Island Agroforestry. Order from: Secretariat of the Pacific Community, Private Mail Bag, Suva, Fiji; Tel: +679 370-733; Fax: +679 370-021; E-mail: tomo@spc.org.fj

### **Permaculture: A Practical Guide for a Sustainable Future**

Author: B. Mollison, 1997

Publisher: Ten Speed Press, Berkeley, California

ISBN: 0-9082-2801-5

The premiere guide to designing resource systems in harmony with natural processes. Highly recommended.

### **Plantation Forestry in the Tropics**

Author: J. Evans, 1992 (2nd edition)

Publisher: Oxford University Press, New York, NY

ISBN: 0-19-854257-7

This comprehensive text covers plantation, community, and social forestry, tree planting to control erosion, and agroforestry.

### **Practical Guide to Dryland Farming**

**I** Introduction To Soil And Water Conservation Practices

**II** Contour Farming With Living Barriers Order

**III** Integrated Farm Management

**IV** Planting Tree Crops Order

**V** Soil Fertility Management Order

Publisher: World Neighbors, Oklahoma City, OK

This series of five booklets (30 to 40 pages each) is useful for agroforestry and soil improvement in dryland areas. Each booklet contains simple drawings and is easy to read. Available from ECHO (see Book Sources).

### **Proceedings from the Five North American Agroforestry Conferences**

**1** Agroforestry in North America; P. Williams, Ed.; February 1989, Guelph, Ontario.

**2** Second Conference on Agroforestry in North America; H.E. 'Gene' Garrett, Ed.; August 1991, Columbia, Missouri.

**3** Opportunities for Agroforestry in the Temperate Zone Worldwide: Third North American Agroforestry Conference; R. Schultz and J. Colletti, Eds.; August 1993, Ames, Iowa.

**4** Growing a Sustainable Future: Fourth North American Agroforestry Conference; J.H. Ehrenreich and D.L. Ehrenreich, Eds.; July 1995; Boise, Idaho.

**5** Exploring the Opportunities for Agroforestry in Changing Rural Landscapes: Fifth North American Agroforestry Conference; L. Buck and J. Lassoie, Eds.; August 1997, Ithaca, New York.

Order the above proceedings at: <http://web.missouri.edu/~afta/>

### **A Review of Uses and Status of Trees and Forests in Land-Use Systems in Samoa, Tonga, Kiribati and Tuvalu with Recommendations for Future Action.**

Authors: R.R. Thaman and W.A. Whistler, 1996

Publisher: South Pacific Forestry Development Programme, Suva, Fiji.

Information on the status of existing agroforestry systems and related programs with extensive species tables. Order through Pacific Islands Forests & Trees Support Programme (see Organizations).

### **Temperate Agroforestry Systems**

Editors: A.M. Gordon and S.M. Newman, 1997

Publisher: CAB International, Oxon, UK

ISBN: 0-8519-9147-5

A landmark reference for agroforestry for temperate regions, including agroforestry practices in North America, New Zealand, Australia, China, and Europe.

### **Tree Crops: A Permanent Agriculture**

Author: R.J. Smith, 1950

Publisher: Island Press, Washington, DC

ISBN: 0-9332-8044-0

A classic reference on the use of trees in agricultural systems.

### **A Tree for All Reasons: the introduction and evaluation of multipurpose trees for agroforestry**

Authors: P.J. Wood and J. Burley, 1991

Publisher: ICRAF, Nairobi, Kenya

ISBN: 92-9059-075-0

Available in English, French or Spanish, this book provides guidance on researching and evaluating agroforestry trees for their suitability to a specific need, site, and purpose.

### **Trees on the Treeless Plains: Revegetation Manual for the Volcanic Landscapes of Central Victoria.**

Author: D. Holmgren, 1994

Publisher: Holmgren Design Services, Victoria, Australia

ISBN: 0-646-17-568-8

Covers design of revegetation systems in detail including windbreaks and farm forestry. The presentation is based on practical experience and is well illustrated. Order through Permaculture International LTD (see Book Sources).

### **Tropical Environments**

Author: M. Kellam and R. Tackaberry, 1997

Publisher: Routledge, New York, New York

ISBN: 0-4151-1609-0

Introduces the complex systems of a broad, cross-regional range of humid to semi-arid tropical climate zones and offers an integration of biophysical and human management issues.

### **Tropical Home Gardens**

Editors: K. Landauer and M. Brazil, 1990

Publisher: United Nations University Press, Tokyo

ISBN: 92-808-0732-3

Extensive treatment of home gardens in a research context, covering the development and management of home garden programs.

## Species Information

### **Agroforestry database: a tree species reference and selection guide**

Authors: A.S. Salim, A.J. Simons, A. Waruhiu, C. Orwa, and C. Anyango, 1998  
 Publisher: International Centre for Research in Agroforestry (ICRAF), Nairobi, Kenya

A selection guide for agroforestry trees covering more than 300 species. Valuable for field workers and researchers who are engaged in activities involving trees suitable for agroforestry systems and technologies. Available as CD-ROM from ICRAF and online at:

<http://198.93.235.8/cfdocs/examples/treesd/AFT/AFT.htm>

### **Choosing the Right Trees--Setting Priorities for Multipurpose Tree Improvement, Research Report No. 8**

Authors: S. Franzel, H. Jaenicke, and W. Janssen, 1996  
 Publisher: ISNAR, The Hague, The Netherlands  
 ISBN: 9-29118-025-4

Provides a procedure for selecting species based on maximizing potential benefits. Download from <http://www.cgiar.org/isnar/publications/enviro.htm> or order from ISNAR Publication Services, P.O. Box 93375, 2509 AJ The Hague, The Netherlands; Fax: +31-70-381-9677; E-mail: [isnar@cgiar.org](mailto:isnar@cgiar.org)

### **Cornucopia II: A Source Book of Edible Plants**

Author: S. Facciola, 1998  
 Publisher: Kampong Publications, Vista, California  
 ISBN: 0-96280-872-5

An encyclopedic reference on over 3,000 edible plants, their cultivars, and sources of plant materials. Direct inquiries to the author Stephen Facciola at [Kzyl-ruk@worldnet.att.net](mailto:Kzyl-ruk@worldnet.att.net) (or see Book Sources).

### **Domestication of Agroforestry Trees in Southeast Asia**

Editors: J.M. Roshetko and D.O. Evans, 1999  
 Publisher: Winrock International, Morrilton, Arkansas  
 ISBN: 1-57360-019-9

Presents detailed reports concerning tree domestication and specific tree species in smallholder agroforestry systems.

### **FACT Sheets (formerly NFT Highlights)**

Authors: various  
 Publisher: FACT Net, Winrock International, Morrilton, Arkansas  
 For a concise summary of information about a multipurpose tree or shrub species, see the appropriate FACT Sheet at <http://www.winrock.org/forestry/factpub/factsh.htm> or order hard copies from FACT Net (see Organizations). Many available in Spanish, French, Indonesian, Chinese, Vietnamese, and Khmer.

### **Farm, Community, and Tree Network (FACT Net) research journals, conference proceedings, field manuals, and training manuals**

Authors: various  
 Publisher: FACT Net, Winrock International, Morrilton, Arkansas  
 Particularly valuable for the practical agroforester, these are some of the best species resources available at a reasonable cost. For a list of the many publications available contact FACT Net (see Organizations) or see <http://www.winrock.org/forestry/factnet.htm>

### **A Field Guide to the Families and Genera of Woody Plants of Northwest South America (Colombia, Peru, and Ecuador)**

Author: A.H. Gentry, 1993

Publisher: Conservation International and The University of Chicago Press, Chicago, Illinois

ISBN: 0-226-28943-5

Covers the extraordinarily diverse flora of Colombia, Ecuador, and Peru. Order from: The University of Chicago Press, 11030 S. Langley Avenue, Chicago, IL 60628, USA; Tel: 800-621-2736; Fax: 800-621-8471; Web site:

<http://www.press.uchicago.edu>

### **Forage Tree Legumes in Tropical Agriculture**

Editors: R. Gutteridge and M. Shelton, 1994 (republished 1998).

Publisher: The Tropical Grassland Society of Australia, St Lucia, Queensland, Australia (previously published by CAB International, Wallingford, UK)

ISBN: 0-9585677-1-9

Covers a number of multipurpose tree legumes that can serve as ruminant forage in silvopastoral agroforestry systems. Download the text or order from:

<http://193.43.36.7/waicent/faoinfo/agricult/agp/agpc/doc/publicat/Gutt-shel/x5556e00.htm>

### **Forest Production for Tropical America**

Agriculture Handbook 710

Author: F.H. Wadsworth, 1997

Publisher: USDA Forest Service, Washington, DC, USA.

A very useful text on tropical forestry. Includes extensive species data for about 150 forestry species, including wood uses. Order from: International Institute for Tropical Forestry, Publications, USDA Forest Service, P.O. Box 5000, Rio Piedras, Puerto Rico 00928-5000; Web site:

<http://www.fs.fed.us/global/iitf/welcome.html>

### **The Leguminosae: A Source Book of Characteristics, Uses, and Nodulation**

Authors: O.N. Allen and E.K. Allen, 1981

Publisher: Wisconsin Press

ISBN: 0-29908-400-0

A global survey of leguminous root nodulation and essential reference for research in tree legumes.

### **Pacific Islands Farm Manual**

Authors: Various, 1994

Publisher: ADAP Project, Tropical Energy House, University of Hawaii, Honolulu

A collection of informational leaflets which serve as guides for taro, perennial vegetables, cover crops, and farm trees. Available for purchase from

[http://www.adap.hawaii.edu/adap/pubs/adap\\_pubs.htm](http://www.adap.hawaii.edu/adap/pubs/adap_pubs.htm) or online viewing at: <http://agrss.sherman.hawaii.edu/onfarm/main0001.html>

### **Plant Resources of South-East Asia (PROSEA) Handbooks**

- 1 Pulses
- 2 Edible fruits and nuts
- 3 Dye and tannin-producing plants
- 4 Forages
- 5 Timber trees



- 6 Rattans
- 7 Bamboos
- 8 Vegetables
- 9 Plants yielding non-seed carbohydrates
- 10 Cereals
- 11 Auxiliary plants
- 12 Medicinal and poisonous plants
- 13 Spices
- 14 Essential-oil plants

Authors: various

Publisher: PROSEA Foundation, Bogor, Indonesia

A valuable series on plant resources for Southeast Asia which is useful to all tropical regions. Order from: PROSEA Network Office, c/o Research and Development Centre for Biology (RDCB-LIPI), Jalan Ir. H. Juanda 22, P.O.Box 234, Bogor 16122, Indonesia; Tel: +62-251-322859, 370934; Fax: +62-251-370934; E-mail: [prosea@indo.net.id](mailto:prosea@indo.net.id); Web site: <http://www.bib.wau.nl/prosea/home.html>

### **The Plant-Book: A Portable Dictionary of the Vascular Plants**

Author: D.J. Mabberley, 1997

Publisher: Cambridge University Press, Cambridge, UK

ISBN: 0-52141-421-0

A comprehensive botanical reference combining taxonomic details with information on English names and uses.

### **Plants for Use in Permaculture in the Tropics**

Author: F.W. Martin, 1994.

Publisher: Yankee Permaculture, Dahlonga, Georgia

Presents extensive tables of plants and their characteristics for use in agroforestry systems.

### **Selection and Management of Nitrogen-Fixing Trees**

Author: K.G. MacDicken, 1994

Publisher: Winrock International, Morrilton, Arkansas

ISBN: 0-933595-86-7

A very useful reference for agroforestry uses of nitrogen fixing trees, including species selection, plant inoculation, growth characteristics, and potential uses.

### **Tropical Trees: Propagation and Planting Manuals**

1 Vol 1. Rooting Cuttings of Tropical Trees, (in English, Spanish and a number of other languages) with five associated video tapes in English and Spanish. (ISBN 0-85092-394-8)

2 Vol 2. Raising seedlings of tropical trees (In press)

3 Vol 3. Preparing to Plant Tropical Trees (ISBN 0-85092-535-5)

4 Vol 4. Growing Good Tropical Trees for Planting (ISBN 0-85092-418-9)

Author: K.A. Longman, 1993–present

Publisher: Commonwealth Science Council, London, UK

These books promote the growing and planting of trees and cover all stages from genetic selection and nursery development to successful planting in the field.

These titles use nontechnical language and are extensively illustrated with line drawings. Order from: Information and Publications Division, Commonwealth Secretariat, Marlborough House, Pall Mall, London, SW1y 5HX, UK; Fax: +44 20 7 839 9081; E-mail: [r.jones-parry@commonwealth.int](mailto:r.jones-parry@commonwealth.int); Web site: <http://www.thecommonwealth.org/htm/info/journals/order.htm>

## Book Sources

Large retailers of books carry a wide selection of the titles listed above. We also encourage you to use the following bookstores, each of which supports the activities of an educational organization:

**ECHO's Global Bookstore** offers more than 430 titles in tropical agriculture, agroforestry, and agricultural development, some of which are very hard to find elsewhere. Address: ECHO's Global Bookstore, 17391 Durrance Rd., N. Ft. Myers, FL 33917, USA; Tel: 941-543-3246; Fax: 941-543-5317; E-mail: books@echonet.org; Web site: [http://echonet.org/shopsite\\_sc/store/html/index.html](http://echonet.org/shopsite_sc/store/html/index.html)

**International Centre for Research in Agroforestry (ICRAF)** sells many of its own excellent publications. Address: International Centre for Research in Agroforestry, P.O. Box 30677, Nairobi, Kenya; Tel: +254-2-521450 or +1-650-833-6645; Fax: +254-2-521001 or +1-650-833-6646; E-mail: e.mwamunga@cgiar.org; Web site: <http://www.cgiar.org/icraf/inform/public/publicat.htm>

**International Institute of Rural Reconstruction (IIRR)** publishes many top-notch practitioner resources. Address: IIRR Bookstore, Publications Unit, International Institute of Rural Reconstruction, Y.C. James Yen Center, Silang, Cavite 4118, Philippines; Tel: +63-46-414-2417; Fax: +63-46-414-2420; E-mail: pub-iirr@cav.pworld.net.ph; Web site: <http://www.cav.pworld.net.ph/~iirr/publications.html>

**Farm, Community, and Tree Network (FACT Net)** sells its own publications at a very reasonable cost. Address: FACT Net, Winrock International, 38 Winrock Drive, Morrilton, Arkansas 72110-9370, USA; Tel: 501-727-5435; Fax: 501-727-5417; E-mail: forestry@winrock.org; Web site: <http://www.winrock.org/forestry/factnet.htm>

**Granny Smith's Bookshop** has a wide range of hard to find titles in tropical agroforestry. Address: P.O. Box 27, Subiaco, WA 6008, Australia; Tel: +61 8-9388-1965; Fax: +61-8-9388-1852; E-mail: granny@AOI.com.au; Web site: <http://www.AOI.com.au/granny/index.htm>

**Good Earth Book Store** sells a wide range of practical texts for organic farming primarily in temperate environments. Address: P.O. Box 898, Shelburne, Vermont 05482, USA. Tel/Fax: 802-425-3201; E-mail: info@goodearthpub.com; Web site: <http://www.goodearthpub.com/gefpubs.html>

**Food and Agriculture Organization of the United Nations (FAO)** has a comprehensive list of its publications, and many are available to read from the web site as well. Address: Sales and Marketing Group, Information Division FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy. Fax: +39-06-5705-3360; E-mail: publications-sales@fao.org; Web site: <http://www.fao.org/catalog/giphome.htm>

**The Permaculture Activist** sells many permaculture related texts. Address: P.O. Box 1209W, Black Mountain, NC 28711, USA; Tel: 828-298-2812; Fax: 828-298-6441; E-mail: pcactiv@metalab.unc.edu; Web site: <http://metalab.unc.edu/pc-activist/>

**Permaculture International Ltd. (PIL)** carries a wide range of publications related to permaculture and community design. Address: PIL, P.O. Box 6039, South Lismore, NSW 2480, Australia; Tel: +61-2-66220020; Fax: +61-2-66220579; E-mail: pij@nor.com.au

## Periodicals

**Agroforestry News** features practical and timely information for farm foresters growing timber with many examples from Australia. Address: Agroforestry News, NRE Port Phillip Region, Locked Bag 3000, Box Hill, 3128 Victoria, Australia; Fax: +61-3-9296-4722; Web site: [http://www.linchpin.com.au/Agroforestry\\_News/](http://www.linchpin.com.au/Agroforestry_News/)

**Agroforestry Today** carries practitioner-oriented reports from around the world on trees and crops on farms, and on the people who plant them. Published by International Centre for Research in Agroforestry (ICRAF). Address: Agroforestry Today, P.O. Box 30677, Nairobi, Kenya; Fax: +254-2-521001; E-mail: [aftoday@cgiar.org](mailto:aftoday@cgiar.org)

**Agroforestry Systems** is very helpful with the hard science of agroforestry, and of practical use. Although very expensive to subscribe, Agroforestry Systems can be found at many university libraries. Address: Kluwer Academic Publishers, Journals Department, P.O. Box 322, 3300 AH Dordrecht, The Netherlands; Tel: +31-78-639 23 92; Fax: +31-78-654 64 74; E-mail: [services@wkap.nl](mailto:services@wkap.nl); Web site: <http://www.wkap.nl/journals/afs>

**APANews**, the newsletter of the Asia-Pacific Agroforestry Network (APAN), is dedicated to the exchange of information on agroforestry research, development, and training in the Asia-Pacific region. Address: APANews, FAO Regional Office for Asia and the Pacific, 39 Phra Atit Road, Bangkok 10200, Thailand; Fax: +66-2-280-0445; E-mail: [fao-rap@fao.org](mailto:fao-rap@fao.org)

**Forest Ecology and Management** focuses on the application of biological, ecological, and social knowledge to the management of man-made and natural forests. Address: Elsevier Science, Regional Sales Office, Customer Support Department, P.O. Box 211, 1000 AE Amsterdam, The Netherlands; Tel: +31-20-485 3757; Fax: +31-20-485 3432; E-mail: [nlinfo-f@elsevier.nl](mailto:nlinfo-f@elsevier.nl); Web site: <http://www.elsevier.nl/locate/foreco>

**Forests, Trees and People Newsletter**, produced by the Forest, Trees and People Programme (FTPP), supports rural populations participating in developing their forest resources. Address: FTTP Network, SLU Kontakt, Swedish University of Agricultural Sciences (SLU), Box 7034, 750 07 Uppsala, Sweden; Tel: +46-18-672001; Fax: +46-18-671980; E-mail: [FTTP.Network@kontakt.slu.se](mailto:FTTP.Network@kontakt.slu.se); Web site: <http://www-trees.slu.se/>

**Forestry for a Small Planet** focuses on agroforestry issues for Africa. Address: Forestry for a Small Planet, P.O. Box 2035, Gallo Manor 2052, Gauteng, South Africa; Tel: +27-11-803 9750; Fax: +27-11-803 9604; E-mail: [trees@cis.co.za](mailto:trees@cis.co.za); Web site: <http://www.junex.co.za/tfa/>

**ILEIA Newsletter** covers technical and social options for ecological and sustainable agriculture and has frequent articles on tree-based systems. Address: LEISA, P.O. Box 64, 3830 AB Leusden, The Netherlands; Tel: +31-33-494 30 86; Fax: +31-33-495 17 79; E-mail: [iliea@iliea.nl](mailto:iliea@iliea.nl)

**The Indigenous Knowledge & Development Monitor** focuses on the role that indigenous knowledge can play in participatory approaches to sustainable development. Web site: <http://www.nuffic.nl/ciran/ikdm/>

**ISTF News** by the International Society of Tropical Foresters (ISTF) is dedicated to providing a communications network for tropical forestry disciplines. Address: International Society of Tropical Foresters, 5400 Grosvenor

Lane, Bethesda, Maryland 20814, USA; Tel: 301-897-8720 Ext. 126; Fax: 301-897-3690; E-mail: [istf@igc.apc.org](mailto:istf@igc.apc.org); Web site: <http://www.cof.orst.edu/org/istf/>

**The International Tree Crops Journal** focuses on the development and promotion of the diversity of tree-based systems within the field of rural development forestry, particularly in the tropics. Address: International Tree Crops Journal, Editors, M.A. Pinard and M.G. Barker, Department of Forestry, University of Aberdeen, Aberdeen AB24 5UA, UK; Fax: +44-01224-272685; E-mail: [tree.crops@abdn.ac.uk](mailto:tree.crops@abdn.ac.uk); Web site: <http://www.abdn.ac.uk/forestry/tropical/treecrop/itcjde.htm>

**Non-wood News** is an information-rich newsletter produced by FAO's Wood and Non-wood Products Utilization Branch, providing readers with current information on nontimber forest products and their contribution to the sustainable development of the world's forest resources. Address: Non-Wood News, Forest Products Division, Forestry Department, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy; Tel: +39-06-570-52746; Fax: +39-06-570-55618; Web site: <http://www.fao.org/forestry/FOP/FOPW/NWFP/newsle-e.stm>

**The Overstory**, produced by Permanent Agriculture Resources (PAR), is a free e-mail journal covering concepts central to agroforestry practices in the tropics including up-to-date references and web links. Address: The Overstory, P.O. Box 428, Holualoa, HI 96725, USA; Tel: 808-324-4427; Fax: 808-324-4129; E-mail: [overstory@agroforester.com](mailto:overstory@agroforester.com); Web site: <http://www.overstory.com>

**Permaculture International Journal**, published by Permaculture International Ltd., covers a wide range of agroforestry examples from the point of view of systems design for perennial agricultural. Order through Permaculture International Ltd. (see Book Sources).

**People & the Planet** focuses on sustainable energy, coral reefs, and forests and does an admirable job of linking population and demographic change with natural resources. Address: People & the Planet, Suite 112, Spitfire Studios, 63-71 Collier Street, London N1 9BE, UK; Tel: +44-207-713-8108; Fax: +44-207-713-8109; E-mail: [planet21@netcomuk.co.uk](mailto:planet21@netcomuk.co.uk); Web site: <http://www.peopleandplanet.net>

**Woods Newsletter**, a quarterly newsletter for the membership of Hawai'i Forest Industry Association, disseminates information on forest issues including nontimber forest products and farm forestry. Address: HFIA, P.O. Box 10216; Hilo, Hawai'i 96721, USA; Tel: 808-933-9411; Fax: 808-933-9140; E-mail: [trailboss@hawaii-forest.org](mailto:trailboss@hawaii-forest.org); Web site: <http://www.hawaii-forest.org/>

## Web Links

**Appropriate Technology Transfer for Rural Areas'** recommended books and proceedings on agroforestry: <http://www.attra.org/attra-pub/perma.html#bookshelf>

**Centre for International Research and Advisory Networks (CIRAN)** maintains a gateway page for indigenous knowledge: <http://www.nuffic.nl/ik-pages/index.html>

**Educational Concerns for Hunger Organization's** extensive list of practical sustainable agriculture links: <http://echonet.org/links.htm>

**Fact Net's** extensive links page on multipurpose trees and agroforestry: <http://www.winrock.org/forestry/factpub/links.htm>

**International Center for Research in Agroforestry's** agroforestry resources and links: <http://www.cgiar.org/icraf/inform/AFLinks/AFLinks.cfm>

**International Society of Tropical Foresters'** links to organizations: <http://www.cof.orst.edu/org/istf/links.htm>

**National Agroforestry Center's** links page: <http://www.unl.edu/nac/links.html>

**People and Plants Online Program's** links page includes many excellent agroforestry resources: <http://www.rbgekew.org.uk/peopleplants/handbook/handbook5/index.html>

**Portable Extension Office for Program Literature Exchange (PEOPLE)** catalogs a huge range of agricultural extension literature for the Pacific Island for ready downloading.

Web site: <http://www.uog.edu/cals/PEOPLE/>

**University of Adelaide's** agroforestry links page: <http://www-vti.waite.adelaide.edu.au/agroforestry/AFsites.htm>

**University of Colorado's Communications for a Sustainable Future** agroforestry links: <http://csf.colorado.edu/sustainability/plants/trees.html>

## Local Resources

Landowners are encouraged to contact the local offices of the Natural Resources Conservation Service and/or Cooperative Extension Service for personal assistance.

**The Natural Resources Conservation Service (NRCS, formerly the Soil Conservation Service)** provides assistance with conservation practices such as windbreaks and contour plantings. They also have a Forest Incentive Program, to increase the supply of timber products from nonindustrial private forest lands. They have offices throughout the American-affiliated Pacific. To find the office nearest you, contact:

NRCS State Office

P.O. Box 50004, Honolulu, HI 96850-0050

Tel: 808-541-2600, Fax: 808-541-1335 or 541-2652

Web site: <http://www.hi.nrcs.usda.gov>

**The Cooperative Extension Service (CES)** of the University of Hawaii can assist landowners with further information. There are CES offices throughout the State of Hawaii; to local one near you contact:

Cooperative Extension Service Main Office

3050 Maile Way, Gilmore Hall 203, Honolulu, HI 96822

Tel: 808-956-8397, Fax: 808-956-9105

E-mail: [extension@ctahr.hawaii.edu](mailto:extension@ctahr.hawaii.edu)

Web site: <http://www2.ctahr.hawaii.edu>

**The State of Hawaii Department of Land and Natural Resources Division of Forestry and Wildlife** provides information, education, and support for forestry. Some cost-sharing and other partnerships with private landowners are available. Contact:

Division of Forestry and Wildlife

1151 Punchbowl St. Room 325, Honolulu, HI 96813-3089

Tel: 808-587-0166, Fax: 808-587-0160

Web site: <http://www.hawaii.gov/dlnr/dofaw/>

## Acknowledgments

Much of the material in this guide was adapted from “The Agroforester’s Library” published in *The Overstory* editions 39, 52, 54, and 57. Contributions to the Agroforester’s Library were made by Aaron Becker, Roland Bunch, Aly B.K. Dagang, Karlyn Eckman, Chris Evans, Roger Leakey, P.K.R. Nair, Jim Penn, Martin Price, Jim Roshetko, Daniel Sonke, Orlo Colin Steele, Robert W. Wescom, and Bruce Wight.

Special thanks are due to the resource professionals who provided valuable review and feedback for this publication including: Kim Higbie, Producer, Hakalau, Hawaii and John H. Lawrence, Soil Conservationist/Plant Materials Specialist, USDA NRCS, Guam.

The input of all reviewers contributed immensely to this guide. The authors accept full responsibility for any errors or omissions.

## About the Authors

**Craig R. Elevitch** is an agroforestry specialist with more than ten years of public and private sector experience in tropical agroforest and forest management. He has a M.S. degree in Electrical Engineering (Dynamical Systems) from Cornell University.

**Kim M. Wilkinson** is the Education Director for Permanent Agriculture Resources and editor of *The Overstory*, an international tropical agroforestry journal. She has B.A. degrees in Anthropology and Ecology from Emory University.

**Christi A. Sobel** is a freelance scientific illustrator and artist who has been published by the Royal Botanic Gardens, Kew, and Educational Concerns for Hunger Organization (ECHO). She holds a graduate degree in Scientific Illustration from University of California, Santa Cruz.

## References

- Agroforestry Information Service (AIS). 1992. Why Agroforestry? Agroforestry Information Service Technology Fact Sheet. USDA Forest Service and NFTA, Paia, Hawaii.
- Association for Temperate Agroforestry (AFTA). 1997. The Status, Opportunities & Needs for Agroforestry in the United States: A National Report. AFTA, Lexington, Kentucky.
- Clarke, W.C., and R.R. Thaman. 1993. *Agroforestry in the Pacific Islands: Systems for Sustainability*. United Nations University Press, Tokyo.
- Elevitch, C.R., and K.M. Wilkinson. 1999. *The Overstory 39—Agroforestry Resources for the Practitioner*. PAR, Holualoa, Hawaii.  
Web page: <http://www.agroforester.com/overstory/overstory39.html>
- Elevitch, C.R., and K.M. Wilkinson. 1999. *The Overstory 52—The Agroforester’s Library, Part One: Books*. PAR, Holualoa, Hawaii.  
Web page: <http://www.agroforester.com/overstory/overstory52.html>
- Elevitch, C.R., and K.M. Wilkinson. 1999. *The Overstory 54—The Agroforester’s Library, Part Two: Species References*. PAR, Holualoa, Hawaii.  
Web page: <http://www.agroforester.com/overstory/overstory54.html>
- Elevitch, C.R., and K.M. Wilkinson. 1999. *The Overstory 57—The Agroforester’s Library, Part Three: Organizations and Periodicals*. PAR, Holualoa, Hawaii.  
Web page: <http://www.agroforester.com/overstory/overstory57.html>

- International Centre for Research in Agroforestry (ICRAF). 1997. Redefining Agroforestry—And Opening Pandora's Box? *Agroforestry Today* Vol. 9 No. 1. ICRAF, Nairobi, Kenya.
- Nair, P.K.R., ed. 1989. *Agroforestry Systems in the Tropics*. Kluwer Academic Publishers and ICRAF, Dordrecht, The Netherlands.
- Nair, P.K.R. 1993. *An Introduction to Agroforestry*. Kluwer Academic Publishers and ICRAF, Dordrecht, The Netherlands.
- Thaman, R.R., and W.A. Whistler. 1996. *A Review of the Uses and Status of Trees and Forests in Land-use Systems in Samoa, Tonga, Kiribati, and Tuvalu*. South Pacific Forestry Development Programme, Suva, Fiji.
- Young, A. 1997. *Agroforestry for Soil Management, Second Edition*. CAB International and ICRAF, New York, NY.

# Agroforestry Guides for Pacific Islands

**Information Resources for Pacific Island Agroforestry** is the first in a series of eight Agroforestry Guides for Pacific Islands, published by Permanent Agriculture Resources with support from the U.S. Department of Agriculture's Western Region Sustainable Agriculture Research and Education (WSARE) Program. The guides can be downloaded from the internet free of charge from <http://www.agroforestry.net>. Master copies are also available to photocopy free of charge from Pacific Island offices of the Natural Resources Conservation Service (NRCS) or the Cooperative Extension Service (CES) of the University of Hawaii.

Each guide includes a resource section with books, periodicals, and web links for further information on the subject.

## **1. Information Resources for Pacific Island Agroforestry**

Provides an introduction to agroforestry, followed by descriptions and contact information for books, guides, periodicals, organizations, and web sites useful to practitioners of agroforestry in Pacific Islands.

## **2. Multipurpose Trees for Agroforestry in the Pacific Islands**

Introduces traditional Pacific Island agroforestry systems and species. Provides a species table with over 130 multipurpose trees used in Pacific Island agroforestry, detailing information on uses (food, fodder, timber, etc.) and tree characteristics such as height, growth rates, and habitat requirements.

## **3. Nontimber Forest Products for Pacific Islands: An Introductory Guide for Producers**

Discusses the environmental, economic, and cultural role of nontimber forest products. Provides planning suggestions for those starting a nontimber product enterprise. Includes a species table of over 70 traditional Pacific Island nontimber forest products.

## **4. Integrating Understory Crops with Tree Crops: An Introductory Guide for Pacific Islands**

Introduces planning considerations for planting crops with forestry, orchard, or other tree-based systems. Examples of understory intercropping systems in the tropics are included, as well as a species list of over 75 trees, shrubs, and vines used as understory crops in the region.

## **5. Introduction to Integrating Trees into Pacific Island Farm Systems**

Presents eight Pacific Island agroforestry practices that integrate trees into farm systems. Includes silvopasture (trees and livestock), windbreaks, contour hedgerows, live fences, improved fallow, woodlots, sequential cropping systems, and understory cropping.

## **6. Choosing Timber Species for Pacific Island Agroforestry**

Discusses seven steps for choosing timber species that meet the project goals, product requirements, and environmental conditions for a farm forestry or agroforestry project. Includes a species table of over 50 Pacific Island agroforestry species that provide quality wood products, detailing environmental tolerances and multiple uses.

## **7. Economics of Farm Forestry: Financial Evaluation for Landowners**

Introduces strategies for determining the financial returns of small-scale forestry and farm forestry projects. Includes a discussion of the advantages and disadvantages of investing in farm forestry, and the steps in determining the costs involved, estimating returns, and comparing farm forestry with other land uses. Also explores the potential of improving economic picture through value-added strategies or agroforestry practices.

## **8. Multipurpose Windbreaks: Design and Species for Pacific Islands**

Covers information on windbreak design, followed by a discussion of planning considerations for multiple-use windbreaks for timber, fruit/nut production, mulch/fodder, or wildlife habitat. Includes species table of over 90 windbreak species for Pacific Islands, detailing environmental requirements and uses/products.

Agroforestry Guides for Pacific Islands  
from: <http://www.agroforestry.net/afg>