

1991 Report of the Steering Committee of the MPTS Research Network

from a meeting held

December 9-10, 1991

in Manila, Philippines

Forestry/Fuelwood Research and Development (F/FRED) Project



1991 Report of the Steering Committee of the MPTS Research Network

*from a meeting held
December 9-10, 1991
in Manila, Philippines*

Compiled by David Taylor

1992

Forestry/Fuelwood Research and Development (F/FRED) Project



Acronyms

ACIAR	=	Australian Council for International Agricultural Research
ADB	=	Asian Development Bank
BAIF	=	BAIF Research and Development Foundation
CATIE	=	Center for Agronomic Research and Training, Costa Rica
CGIAR	=	Consultative Group for International Agricultural Research
CIDA	=	Canadian Institute for Development Assistance
CIFOR	=	Center for International Forestry Research
CSIRO	=	Commonwealth Scientific and Industrial Research Organization
FAO	=	Food and Agriculture Organization of the United Nations
F/FRED	=	Forestry/Fuelwood Research and Development Project
FORSPA	=	Forestry Research Support Project for Asia-Pacific
FRIM	=	Forestry Research Institute Malaysia
FVF	=	Farm and Village Forestry
IADSS	=	Information and Decision Support System
ICRAF	=	International Center (formerly Council) for Research on Agroforestry
IDRC	=	International Development Research Centre of Canada
ITTO	=	International Tropical Timber Organization
IUFRO	=	International Union of Forest Research Organizations
GRSS	=	F/FRED Global Research Systems Staff
KUFF	=	Kasetsart University, Faculty of Forestry
LOA	=	Letter of Agreement
MOU	=	Memorandum of Understanding
MPTS	=	Multipurpose tree species
MUSFAD	=	MPTS Utilization for Small Farm Development
NFTA	=	Nitrogen Fixing Tree Association
OFI	=	Oxford Forestry Institute
RECOFTC	=	Regional Community Forestry Training Centre, Bangkok, Thailand
TFRI	=	Taiwan Forestry Research Institute
UPLB	=	University of the Philippines at Los Banos
UPM	=	Universiti Pertanian Malaysia



Winrock International Institute for Agricultural Development



financed by the U.S. Agency for International Development

Contents

Introduction	iv
Executive Summary	1
Opening Remarks	3
Minutes of the Meeting	4
Appendices	
MPTS Information System Development	19
Network Secretariat Activities Reports	22
Issues Papers	28
Participants	43

Introduction

Fast-growing trees that farmers raise for their own needs, including fuelwood, fodder, food, and timber, can help reduce the pressure on natural forests that is causing their destruction. Such fast-growing tree species are called multipurpose tree species (MPTS) when they can meet several of these needs.

The Multipurpose Tree Species Research Network is a forum for scientists involved in improving the production and use of MPTS on small farms in Asia. Through the Network, scientists: clarify the objectives and methods for MPTS-related research; conduct both standardized and comparative research; and share resources and information for greater efficiency of research funds.

An important Network goal is to encourage foresters, agriculturalists, and social scientists to work together for the most effective combinations of research tools and perspectives from the different disciplines.

The Network is managed by a Secretariat located with the Faculty of Forestry, Kasetsart University, in Bangkok, Thailand. The Network is funded by the U.S. Agency for International Development (A.I.D.), through the Forestry/Fuelwood Research & Development (F/FRED) Project. F/FRED, now in its second five-year phase (1990-1995), is implemented through a cooperative agreement between A.I.D. and Winrock International, a non-profit organization based in Arkansas, U.S.A.

This is the report of the Network's Steering Committee, one of two advisory groups that guide the Network program. One purpose of the meeting was to review the Research Committee's report from its annual meeting in Kathmandu, Nepal, June 17-26, 1991 (*Multipurpose Tree Species Research: Toward Practical Applications*, compiled by Suree Bhumibhamon, Ahmad Said Sajap, and David Taylor). Another purpose of the Steering Committee's meeting was to review activities of the Network Secretariat and the project's Global Research Systems Staff (Appendices 1 and 2). In addition, the Committee met to consider the issues papers included in Appendix 3.

Executive Summary

Introduction

The two-day meeting of the Steering Committee set out to take stock of ongoing activities in the Multipurpose Tree Species (MPTS) Research Network, appraise the Network's performance, and look ahead. In opening the meeting, Dr. Salleh Mohd. Nor, the Chairman, noted that forestry in the region and globally is at a crossroads. This was reflected in the issues before the Committee. In addition to this agenda, Dr. Ian Morison of the U.S. Agency for International Development (A.I.D.) asked the Committee to inform A.I.D.'s plans in the broader context of forestry and natural forest management.

Report of the Research Committee

Research Committee Chairman Dr. Suree Bhumibhamon presented the report of the Network's Research Committee's June 1991 meeting in Nepal. The report described activities of the regional Network and its member national networks as reported in their annual meetings. The report reviewed national situations regarding: the roles of multipurpose trees in providing fodder, fuelwood, food, and materials for post-harvest processing and marketing; and training needed to develop the national research capacities. The report made specific recommendations for Network activity in these areas and suggested several new initiatives to strengthen the Network's research and development program and ensure that results are available to farmers. The Research Committee stressed the importance of national plans and synthesis for use in informing government policy.

Dr. Suree reported that seeds of superior *Leucaena* varieties would be available from Network seed orchards early in 1992, and that seed orchards of *A. auriculiformis* were being established. An intersite analysis of the 1987 multilocation network trials is scheduled to be available in the first half of 1992.

Program Review

Dr. Foster Cady of the project's Global Research Systems Staff reported that the six subsystems of MPTSys Version 3.0, a microcomputer-based package, would be released in the first half of 1992 (see Appendix 1). MPTSys components include subsystems to support the collection, management, and analysis of experiment data, and predictive modelling for assessing species potential at untested sites. After mid-1992, the development effort would cease and one staff member would maintain the system and address users' needs in the Network.

The Network Secretariat, led by Dr. Rick Van Den Beldt, presented its current program of research, training, and publications, along with plans for the coming year (see Appendix 2). Research areas include tree improvement, applied social science research (specifically, regional comparative studies, bioeconomics, marketing, extension research and development), species management experiments, and utilization. New initiatives include establishment of a range-wide provenance study of *Azadirachta indica* (neem), in collaboration with research institutes in West Africa. They also include strengthening of a new *Artocarpus* network for developing participatory methods for research on this popular genus. The Network Secretariat will provide inputs to further strengthen national MPTS networks. In training, correspondence courses will be introduced in 1992, as well as several new 'roving' courses on participatory research and agroecosystems analysis methods.

The Committee endorsed a proposed Masters degree program that would link programs within the region to strengthen ties in the Network's twinning program, facilitate on-farm research, and eventually strengthen the capabilities of non-government organizations (NGOs) to conduct research.

The Committee reviewed the recommendations of the theme workshop on the

Role of NGOs in Promoting On-farm Tree-growing Technologies, co-sponsored by the Network, IDRC, FAO, and NFTA in September 1991. The Committee endorsed the proposed follow-up activities to improve linkages between experienced, committed NGOs and MPTS research programs at the national and regional levels.

Scientific Achievement Award

The Committee awarded the 1991 MPTS Scientific Achievement Award to Dr. Fuh-Jiunn Pan for his research on breeding *Leucaena* for greater pest resistance and a wider range of site conditions and end products. The award includes a research grant.

Indochina

The Committee endorsed the proposed geographic expansion of the Network's activities into the countries of Indochina. This would be explored by inviting representatives from these countries to observe the next Research Committee meeting, in conjunction with support from other donors.

Strengthening National Institutions

The Committee re-affirmed the Network's commitment to strengthening national institutions through a coordinated program, according to priorities set forth by each national committee.

Mandate

In discussing the Network's mandate, the Committee re-affirmed the Network's relative priority on the production role of trees for market and household uses. In emphasizing the capacity of trees to provide commodities to farmers, the Network seeks to complement the work of ICRAF and other organizations already studying nutrient cycling, soil erosion, and the dynamics of agroforestry systems.

Natural Forest Management

The Committee authorized a study of possible contribution of the experience of the MPTS Research Network toward the development of an international initiative to support Natural Forest Management.

Proposals to adjust the Network's mandate in this direction, however, will require much advance consultation and consideration of the effects at all levels of Network activities. The Committee strongly endorsed the Network's current program and mandate. It felt that in providing farmers with management alternatives, the Network is making an important contribution to the broad issue of maintaining the resource base.

Introductory Remarks

Ian G. Morison
F/FRED Project Officer
U.S. Agency for International Development

Mr. Chairman, guests, and members of the Steering Committee, on behalf of the U.S. Agency for International Development, I extend a very warm welcome to you here today.

USAID is very proud of this committee and the way it has guided the F/FRED Project and the Multipurpose Tree Species (MPTS) Research Network during the past eight years. You all should also be very proud of the role you have played as leaders in making this Network a model for others to follow. There is nothing else in the forestry arena that approaches it.

Your companion committee, the Research Committee, also deserves recognition for its hard work. The relationship between the two committees has been productive, complementary, and harmonious.

National MPTS organizations have developed in a number of countries on their own, as interest and research in MPTS have increased through participation in the Network.

The 5-year cooperative agreement that forms the second phase of the 10-year F/FRED Project is in its second year, so we are nearing the end of the Project. The cooperative agreement terminates in April 1995, just over three years away. It is therefore not too early to think about what will happen after that time. We should all give this matter our considered attention.

To be quite frank with you, although the subject of MPTS research was one of USAID's highest research priorities when the project started in 1985, donor priorities change with changing circumstances. The Agency now assigns its highest priorities to such integrated areas as conservation

of biological diversity, global climate change, and natural forest management.

In considering the continuation of the MPTS Research Network, one option is for the national organizations to "take up the baton" when current USAID central support ends. The regional Network has taught countries how to carry out research, and has given them experience in networking.

The new Center for International Forestry Research (CIFOR) is planned to be up and running by the end of 1992, and it has a mandate to help sustain productive research networks. We may look to a transition stage whereby CIFOR becomes financially stronger and F/FRED financially weaker. This is a promising option that we should also consider.

Another potential avenue is for this Network to become involved in A.I.D.'s new initiatives in Natural Forest Management and related areas. The R&D/ENR Office in A.I.D. is currently conducting a needs assessment for such a project. There may be an opportunity for A.I.D. to use this Network as a model for developing the research component. This is a possible way ahead for this Steering Committee to continue to play a vital role.

Finally, let me emphasize that USAID has not yet made any decisions regarding either the extension of support for the MPTS Research Network or the role of research in its natural forest management initiative. There are many options in both areas, and I invite you to examine the full range in determining what niche our Network may have in the years ahead. Your counsel will be valuable for A.I.D. to consider at this stage.

Best wishes for your meeting, and thank you.

Minutes of the Meeting

Introduction

Dr. Salleh Mohd. Nor, Committee Chairman, called the meeting to order, noting that the last meeting of the Committee was held in Arlington, Virginia, USA, July 31 - August 2, 1990. He remarked on the hospitality in both Manila and Arlington, and especially welcomed those in attendance who were new to F/FRED and the MPTS Research Network.

He reviewed the composition of the Steering Committee: three permanent members -- the senior IUFRO representative in the region (Dr. Salleh Nor), the senior FAO regional forestry official (Dr. Y.S. Rao), and the Dean, Faculty of Forestry, Kasetsart University (Dean Niwat Ruangpanit); and four representatives elected from the Research Committee, including the Research Committee chairman (Dr. Suree Bhumibhamon, silviculture) and equal representation of the biological and social sciences (Dr. Narayan Hegde, economics; Prof. H.P.M. Gunasena, agriculture; and Prof. Kailash Pyakuryal, rural sociology).

The Chairman particularly welcomed Dr. Rick Van Den Beldt, who joined the Network Secretariat in August as the new Field Team Leader. The Chairman asked that the minutes reflect an expression of appreciation to Mr. Ken MacDicken for his contribution as previous Field Team Leader in developing the Network.

The Chairman noted that forestry in the region and globally is now at a crossroads, and that was reflected in the significance of the issues to be discussed. He called on Mr. Niblock as F/FRED Project Manager, Dr. Van Den Beldt, and Dr. Morison, as A.I.D. Project Officer for F/FRED, to make opening statements.

Mr. Niblock noted the remarkable opportunity for those present to be involved in a topic of key global importance. He said that the interest in the Network's agenda at the national and international levels provided reason for optimism. He suggested that the Steering Committee meeting might take

stock of ongoing activities, appraise Network performance, and look ahead.

In the past year, two forestry institutes have joined the Consultative Group of International Agricultural Research (CGIAR) -- the International Council (now Center) for Research on Agroforestry (ICRAF) and a new institute tentatively named the Center for International Forestry Research (CIFOR). Both these new CGIAR members are mandated to work with research networks. As a model of intensive networking, the experience of the MPTS Research Network should be valuable to them.

Mr. Niblock described possibilities for expansion of the Network -- geographically and topically. Possibilities for greater involvement in the countries of Indochina are good. Regarding expansion of the Network's mandate, the Network is still at an early stage of achieving the goal of improved tree production and use to meet the needs of rural poor farm households.

On behalf of the U.S. Agency for International Development (A.I.D.), Dr. Ian Morison extended a warm welcome to all participants. He welcomed the opportunity to learn the Committee's thoughts on where the Network should go in the future, balancing these priorities with what A.I.D. likely can support as a donor. Dr. Morison remarked that A.I.D. is proud of the Network's achievements under the Steering Committee's guidance, and considers it a model of what networking can make happen. He recognized the work of the Research Committee and its close working relationship with the Steering Committee. He also noted the national networks that have arisen in the participating countries.

It is not too early to plan for what follows after the F/FRED authorization ends, he noted. While MPTS was a top priority within A.I.D. at the Project's start in 1984, the Agency's priorities have shifted and the Network must recognize this shift in planning its future. With increasing international attention being paid to deforestation, A.I.D. has

shifted its emphasis in forestry toward natural forest management.

Dr. Morison mentioned several options for continuation of the Network (see pp. 3-4). He stated that he would like to pursue the Steering Committee's ideas on these within A.I.D. and in discussions with ACIAR in the development of CIFOR. A.I.D. has not yet decided on its options - this meeting is an opportunity to inform A.I.D.'s thinking. Dr. Morison gave his best wishes to the Steering Committee in its discussions.

In his opening remarks, Dr. Rick Van Den Beldt cited synthesizing results from past and on-going network research as an overriding objective of the Network Secretariat in the coming years. The results of the Network field trials established in 1987 and 1991, the regional psyllid control program, and all sets of small research grants are among those to be written up by the end of F/FRED's authorization.

More immediately, the Network Secretariat needs to consolidate its position with the national network programs by updating all Memoranda of Understanding (MOUs -- providing primary Network involvement) and Letters of Agreement (LOAs -- providing for less intensive Network involvement), and by further supporting national networks.

Dr. Van Den Beldt noted that in planning for the future, the Network should be responsive both to donors and national governments, balancing these two overlapping sets of concerns. The six issues papers for the meeting (see appendices) reflect the Secretariat's agenda for: strengthening of national institutions, clarifying the Network's mandate and its relationship to other initiatives, new Masters' degree fellowships, linkages with other networks, and linking Network activities with those of NGOs.

Review of the Report of the 1990 Meeting and Outstanding Issues

The Chairman reviewed the report of the Arlington Steering Committee meeting. The Committee adopted the report without changes.

The Chairman noted four outstanding issues from the minutes of the last meeting. First was the status of the proposed panel to assess sustainability of the Network. Tom Niblock explained that, due to the continued uncertainty of the international mechanisms being established for forestry research, F/FRED had postponed organizing the panel until receiving clarification of the respective roles of ICRAF and the new center, CIFOR, within the CG system. Now it is timely to consider that relationship.

The second issue noted by the Chairman concerned the prospect of funding support from the Republic of China (ROC) to support the Network's training program. Mr. Niblock reported that F/FRED's proposal for support had apparently not moved forward since Winrock's President, Mr. Bob Havener, visited Taiwan. Dr. Suree suggested that the next Research Committee meeting scheduled to take place in Taipei in May 1992 may provide an opportunity for the Network to engage ROC to sponsor training and research.

The third issue noted by the Chairman concerned greater involvement in the South Pacific subregion. Dr. Van Den Beldt reported that he had met with the new Director General of Forestry in Papua New Guinea, and that collaboration would intensify through several small research grants.

The fourth issue from the 1990 meeting was the status of the institutional twinning agreement between FRIM and TFRI. The Chairman is pursuing this agreement through the Malaysian Foreign Ministry.

Mr. Niblock noted a further issue, the recruitment of a Network Specialist for the Arid and Semi-arid Zone. F/FRED and A.I.D. are actively considering candidates for the position for the last 2 to 2 1/2 years of the project.

Dr. Y.S. Rao noted that at the last meeting the CG representative stated that the new center would not have a mandate to deal with watershed management. Dr. Rao asked if this has changed -- will CIFOR stand at the interface between forestry and farming? Dr. Rao also re-affirmed the note on page 3 of the 1990 report that coordination of FAO and F/FRED initiatives should "reduce conflicting demands for the time and energy of the best

scientists of the region," expressing his desire for a convergence of donor efforts.

Dr. Salleh noted that the Australian Council for International Agricultural Research (ACIAR) will be drafting the strategic plan for CIFOR for presentation in mid-1992. This should clarify CIFOR's mandate vis-a-vis ICRAF. After the mid-year presentation, the strategic plan would be adjusted with the goal of becoming active by the end of 1992.

The Chairman concurred with the view that effort should be made to reduce the conflicting demands on the pool of dedicated scientists.

Report of the Research Committee

Dr. Suree led discussion of the report of the Research Committee's 1991 meeting, *Multipurpose Tree Species Research: Toward Practical Applications*. The report describes ongoing Network activities, the progress of national networks in their annual meetings, and new initiatives to strengthen the Network's research and development program. The Research Committee stressed the importance of national plans of action.

Dr. Rao congratulated the Research Committee on the clarity and comprehensiveness of its report. Noting the call for an inventory of fuelwood research results, he agreed that it was important but difficult to achieve. Is it feasible? RWEDP should be involved, and responsibilities should be clearly designated.

Dr. Rao asked if there should be a fodder network. Regarding MPTS and the environment (page 31), he noted that marginalized soils were an appropriate focus, as they were often the residence of marginalized peoples. Also in that table he approved the mention of urban forestry and noted the ability of *Pterocarpus indicus* to survive pollution. Regarding multipurpose food trees, Rao indicated the importance of gender analysis in identifying species preference.

Finally, noting the sections of 'Motivation and Extension' and 'Information and Development,' he reiterated the importance of getting research

results to technicians in the field, using the paradigm of Forestry Research for Extension and Training (FRET).

Dr. Cherla Sastry, IDRC, was glad to see the wide range of interests in the Committee's report, but asked if funding was available for follow-up. As head of six IDRC networks, he hoped IDRC and F/FRED could combine forces for more effective coverage. He cautioned the MPTS Network not to spread itself too thin and thus lose its comparative strength.

Dr. Sara Tisch, Winrock International, representing Winrock's regional office, congratulated the Committee on its report and noted the opportunities to highlight documentation of gender analysis in the use of fuelwood and fodder, and in addressing extension audiences.

Dr. Hegde suggested that with so many important issues included, portions of the report should be distributed as brochures for planners' consideration. Dr. Suree replied that national networks are best able to synthesize the recommendations for their national policy makers. The Thai national MPTS subcommittee is preparing guidelines for a fuelwood policy, for example.

Dr. Frances Korten, Ford Foundation, asked why land tenure was not mentioned, as it is a major constraint in growing trees. Dr. Pyakuryal responded that the meeting of Farm and Village Forestry (FVF) researchers the previous week had recommended land tenure as a topic for follow-up study. Dr. John Raintree noted also that the Network had commissioned several studies on land tenure in connection with the FVF study, and was considering diagnostic follow-up related to the FVF findings.

Dr. Suree thanked the participants for their suggestions. He noted that the Network would like to recognize women's role in growing MPTS in its research. Dr. Van Den Beldt echoed this, explaining that the Network had commissioned a report on gender and established a four-member panel to review it. Regarding land tenure, he acknowledged the good deal of work that ICRAF had done on land tenure and said the MPTS Research Network will study that output.

The Chairman noted the importance of gender studies by observing that a two-day meeting of the CG Technical Advisory Committee (TAC) had been devoted to informing all the Directors General on gender issues and analysis.

Dr. Gloria Steele stated that central offices in A.I.D. could supplement F/FRED funds by matching, on a 60-40 basis, funds for gender and tenure studies.

Dr. Salleh had two questions for the Research Committee: (1) To what extent has improved planting material been distributed? and (2) what is the status of analysis of the 1987 network trials? Dr. Suree replied that network scientists will soon be collecting psyllid-resistant *Leucaena* seeds. For most species, though, tree improvement takes time. Dr. Kamis Awang replied that the 1987 network trials analysis has been delayed -- obtaining data from cooperators takes time -- but added that the intersite analysis should be complete by spring 1992.

Regarding *Leucaena*, it was suggested that there is reduced scope for further Network focus on this genus, but rather that it should be one species in a range of species studied.

Dean Niwat commented that the Committee's report was good, but agreed with Dr. Sastry that priorities are needed for research. It is important to concentrate on transferring the results to extension, he said. He suggested that such activities receive greater priority than scientific workshops.

Dr. Rao reminded the Committee of the Outstanding Tree Farmer Awards given on World Food Day, October 16, 1991. As FAO rotates the award among different types of farmers, it recognizes tree farmers only once in five years. Perhaps the Network could help continue the award in between years. Dr. Van Den Beldt suggested that perhaps the national MPTS committees could pursue this. From those recognized at the national level, several outstanding farmers could be recognized at the regional level.

Project Progress: The Global Research Systems Staff

Dr. Foster Cady presented progress by the Global Research Systems Staff (see Appendix 1). Dr. Cady explained that the GRSS (1) provides technical support to the Network, through selected training and database backstopping, (2) develops the MPTSys database management system, and (3) coordinates system development activities with other efforts in MPTS data management.

In developing MPTSys, which will be released as subsystems designed for particular sets of users in the first half of 1992, the GRSS's goal has been a usable and helpful microcomputer-based software package for independent use in researchers' offices. Field usability is a key concern, as the exchange of data across sites is central to a research network.

The six subsystems were identified in consultation with a technical advisory committee from the MPTS Research Network. While all the subsystems and databases are stand-alone, they are also designed, through control and data links, to work together as a system. In the Research subsystem, the Experiment and Farm and Village Forestry databases act as 'anchors.' The Technology Transfer subsystem focusses on prediction of species growth on non-experiment sites.

GRSS has coordinated its systems development work most closely with CSIRO, the U.S. Soil Conservation Service, and NFTA. It has also collaborated with CATIE, ICRAF, and OFI.

Responding to the Chairman's question of how many scientists are now hands-on users of the system, Dr. Cady replied that there are 50 systems of IADSS (the previous version of MPTSys) in use, with probably 30 very experienced users.

Dr. Rao recognized the importance of MPTSys as a unique contribution of the project, saying that in its structure it facilitates the integration of an individual scientist's data on soils, climate, economics and other aspects of tree growing. He suggested that a team of 5-6 professionals might be assembled to visit sites, gather data, and test the

analysis and predictive capabilities of MPTSys against the estimates of experienced foresters.

It will take time to assess this contribution, for scientists are not yet confident in their facility with such systems to rely on them for use in published papers.

Mr. Niblock expressed the hope that CIFOR would take up MPTSys as the standard for data exchange and management, and recognized the contribution of Dr. Cady and his staff, who will leave the full-time Project staff in the summer of 1992. It is planned that the system will be maintained and promoted by one staff member, who will relocate to the Network Secretariat at that time. The Chairman echoed this note of thanks for the GRSS's tremendous effort and contribution to MPTS research.

Project Progress: The Network Secretariat

The Chairman then called on the Network Secretariat to present its work program. Dr. Van Den Beldt described the areas to be covered by the respective Secretariat staff: Arid and Semi-arid Zone (Dr. Van Den Beldt); Humid and Subhumid Zone (Dr. Kamis Awang); Applied Social Science (Dr. Raintree); Economics (Dr. Sompetch Mungkorndin); Training (Dr. Celso Lantican); Information and Publications (Mr. David Taylor). Dr. Van Den Beldt expressed appreciation to Dr. Sompetch, who was serving as officer-in-charge at the Network Secretariat during the meeting. In addition, the Network Secretariat employs a support staff comprised of an administrator, computer specialist, travel and transport coordinator, publications assistant/secretary, two full-time secretaries, and three drivers.

He reminded the participants that involvement in the Network by national institutions is arranged through MOUs and LOAs, and that national MPTS networks are encouraged and strengthened. Specific research studies are implemented in part through small research grants of 2-3 years duration, all less than US\$10,000. Two broad series of small grants have been awarded in 1988 and 1991. The results of the 1988 series require synthesis; titles of

winning proposals in the 1991 series (total of US\$162,000 for 27 grants) appear in the Research Committee's Kathmandu report, pp. 58-59. A further series of grants will be awarded through a more intensive screening process in 1992. Professional service agreements provide another means for commissioning specific studies.

Calling the Committee's attention to the workplan for Phase 2 (1990-1995), Dr. Van Den Beldt stressed the interdisciplinary innovations of bioeconomic methods for translating experiment results to economic realities, marketing studies, regional comparative studies, and a methodology for community-based tree improvement. He also noted the interest in non-wood forest products, highlighting the people-forest interface, and capabilities enhancement for NGOs in conducting field research. A further note was the interest in inter-regional collaboration; one example of this is the exchange of *Azadirachta indica* germplasm planned between South Asia and West Africa.

Dr. Van Den Beldt stated that means chosen for strengthening national networks would depend on the proposals received from the networks after the next round of annual meetings.

Asked if any grantees from the 1988 series of Small Grants were awarded a second grant to continue their work in the 1991 series, Celso Lantican replied that only one grantee was continued in that way. Dr. Raintree commented that a limit of US\$10,000 poses a problem particularly in social science and on-farm research, where fielding researchers demands more staff time. One way to reduce the obstacle is through a goal-phased sequencing of grants. Dr. Lantican explained that the small grant amount reflects the cooperative nature of the grants -- that home institutions participate as partners by providing salaries, use of equipment, etc. Mr. Niblock was encouraged to note Dr. Sastry's comment that IDRC may be able to provide support for a continuation of the grants program.

Dr. Rao asked how such grants programs -- and FORSPA would soon be in the same position -- achieve balance in awarding grants among the various participating countries. Dr. Van Den Beldt replied that by distributing responsibility for grants

among Secretariat staff and identification of promising scientists through country visits, equitable distribution could be ensured. The next series of grants would be announced both in *Farm Forestry News* and through letters to MOU institutions. With no deadline pressure for announcement of awardees, the screening process could be more considered. The Chairman noted that although the maximum grant amount was small (many researchers prefer to invest the time required for proposal preparation into obtaining US\$100,000 grants from other donors), the program has helped foster research "on the ground."

Humid and Subhumid Zone

Dr. Awang then presented activities in the Humid and Subhumid Zone (see Appendix 2). Regarding Dr. Cady's request for MPTSys users' comments, Dr. Awang considered the Experiment database easy to use. Although some bugs remained, communications with GRSS had improved the forms and made them more generally useful for other research.

Provenance trials of *Acacia auriculiformis* were being monitored and the resulting data would be reviewed with ACIAR scientists early in 1992. In establishing the 1991 Network trials, Dr. Awang had visited all sites with the soil scientist taking characterization samples and becoming acquainted with the cooperating scientists.

In the context of Humid Zone activities, Dr. Surec announced plans for the 1993 symposium on production of improved seed, to be organized by the ASEAN-Canada Forest Tree Seed Centre. Last month a planning meeting in Indonesia set the agenda for the May 1993 symposium, which will relate to biodiversity.

Mr. Niblock asked why the attempt to include the Latin American species *Inga edulis* in the 1991 trials had failed. *Inga* had been chosen by the cooperating scientists in 1990 following the results of the FVF study that showed farmers' preference for food-producing MPTS. Since the top Asian candidate species, *Artocarpus heterophyllus* (jackfruit), posed serious problems of seed

recalcitrance and difficulties in synchronizing fruiting periods, it was felt that *Inga* offered more potential for trials testing as well as a range of products, including food; and through an arrangement with CATIE in Costa Rica, the trials could include sites in the species' natural range.

Several responses to Mr. Niblock's question were offered. Dr. Cady suggested that it was a case of misapplication of technology transfer -- that the methods used to test the transportability of seed in CATIE did not match the actual conditions of transport and methods employed by the receiving cooperators in Asia. Dr. Awang added that the recalcitrance of *Inga* seeds -- with viability of only several weeks -- made the prospect of multilocation trials risky to start with, and did not allow for delays in transport. It was suggested that hand delivery of trials seeds may improve germination; Prof. Gunasena observed, however, that even with personal delivery of seeds of jackfruit, also recalcitrant, there were problems. Dr. Lantican offered that a farmer had recently advised him that jackfruit seed viability is prolonged if transported in the fruit.

Dr. Raintree remarked that this was a good example of the real-life difficulties that arise when researchers attempt to address social objectives. It's useful in that it explains why, unlike other species spread during the age of European exploration, *Inga* did not move far from its natural range in Latin America, despite its various uses. It also points up the need for research to deal more effectively with the problem of recalcitrant seed.

Arid and Semi-arid Zone

Next, Dr. Van Den Beldt presented the activities of the Arid and Semi-arid Zone (see Appendix 2). He recognized Prof. Gunasena's contribution as interim trials coordinator in late 1990 and early 1991, and the priority need to recruit a full-time coordinator as soon as possible. He also highlighted plans for an inter-regional study of neem (*Azadirachta indica*) provenances in South Asia and West Africa. At a September 1991 meeting in Kandy, the Arid and Semi-arid zone trials scientists agreed to maintain 8 out of 11 semi-arid sites and 4 or 5 of the 15 arid sites. National

meetings in India, Pakistan, and Nepal early in 1992 would refocus activities in these environmental zones.

Dr. Morison said that A.I.D. was aware of the constraints imposed by the lack of a full-time Arid/Semi-arid Zone Specialist position, and would do everything it could to facilitate authorization for the position. Dr. Rao rejoined that the position was certainly important, as MPTS in arid and semi-arid areas of Asia are more the domain of farmers than in the humid areas, where they also survive in the wild.

The Chairman suggested that until a full-time network specialist is recruited, scientists from the region might provide backstopping support for these activities, as Prof. Gunasena had done. Dr. Van Den Beldt replied that such an arrangement would in fact continue into 1992.

Applied Social Science Research

Dr. Raintree presented the activities in this program area (see Appendix 2). The first regional analysis of the FVF study was prepared by Dr. Charles Mehl and published earlier in 1991 in the Network's MPTS Research Series. The meeting of FVF researchers in early December reviewed this analysis, assembled progress reports on related activities, and pointed up next steps in regional comparative studies. Further analysis of the data from the 1989 FVF study will focus on comparative analysis, as it is more likely to reveal patterns in the data set than aggregate statistical analysis. Although multivariate tools may be useful in identifying some patterns, the most productive analyses would be those that test hypotheses derived from sound theoretical frameworks.

Five regional comparative studies proposed at the FVF meeting were: study of gender factors, impact of government policies on tree use, comparison of nursery practices, inventory of market supply in communities, and diagnosis of Network trial results in FVF villages. Further individual studies might consider indigenous forest management practices, the role of foresters in local communities and forest management, and kinship-based forest management systems. There is the need for

community-level studies and feedback to the participating communities from the study. Five comparative studies already underway are listed in the Research Committee's Kathmandu report, p. 60.

To synthesize the FVF data in its geographical context for comparison of site-specific relationships, a microcomputer-based geographic analysis system is being developed at the regional level and at the national level in the Philippines.

In the Network's approach to MPTS marketing, a different approach is being used -- rather than starting from a large regional effort to compare more meaningful relationships at a smaller level, the Network will explore what individual efforts are already available and from that basis pull together a regional understanding of marketing, perhaps at a workshop in 1993.

Representing Dr. Sompetch, Dr. Raintree presented the work on developing simple bioeconomic tools by which trials results could be converted to economic assessments. Dr. Sompetch is also engaged in a series of roundwood studies.

Dr. Raintree described the *Artocarpus* network developing in the Philippines, Sri Lanka, and Indonesia. This represents an outgrowth from both the study of farmers' tree-breeding objectives (TBO) -- that tree improvement is an area where F/FRED can focus on participatory methods to ensure farmers' participation in its component (not systems) -- and the FVF study, which highlighted the importance of food-producing trees as MPTS, and pointed to jackfruit as a promising starting point.

In the Cebu project implemented by ViSCA to develop and apply methods for community-based tree improvement, both genetic improvement and improved management choices through assessment of existing markets will proceed through interdisciplinary collaboration.

Dr. Steele asked how the Network ensured in this collaboration a flow of information between biological and social scientists, and between scientists in farmers. Dr. Pyakuryal explained that in the case of the FVF study, data collection and

initial interviews involved a team of biological and social science to identify species used. The data were then processed by trained enumerators and then the scientists then sought consensus among the villagers by presenting the results in a second set of interviews with the villagers. Dr. Raintree observed that in regard to the TBO study, revised methods could, for example, be applied to the development of community clonal seed orchards.

Prof. Gunasena expressed concern at the gap between researchers and farmers in the transfer of technology. The distance between the two groups remains. On-farm trials can effectively reduce this distance.

In reply to a question of the participatory aspects of the F/FRED program, Dr. Raintree pointed to the overall nature of the Extension Research & Development (ER&D) program component, as typified in the study involving a secondary school near Chiang Mai, Thailand, which also served as a site in the 1991 Network trials.

Dr. Hegde suggested that each Network trial be evaluated to see how the results could be made useful to different societies in the region. The Chairman observed that how to do this was a continuing question that the Network must consider.

Considering Dr. Steele's question regarding the integration of biological and social science perspectives, Dr. John Cool observed that paradigms, like seeds, require care when being 'transported' from one region to another. Over the years of F/FRED, a great deal of exchange between biological and social scientists has taken place -- not always in a straightforward and intended manner, but with results such as the survey of farmers' tree-breeding objectives and its follow-on activities. This exchange is not a mechanical process and so its progress is not easily traced, but slowly the results do take shape.

The Chairman agreed, noting the efforts on integration incorporated from the first stages of developing the F/FRED program.

Training

Dr. Lantican reviewed the objective of the Network's training component: to enhance the capability of scientists in the region to conduct MPTS research. He then outlined the activities in graduate fellowships, short courses, and materials development (see Appendix 2). Given the limited time remaining in the project, it was considered best not to start a Ph.D. program that could not be completed, but instead to focus on Masters' level training through the institutional twinning program that would permit home-country research involving a faculty advisor from the student's home institution. Later, perhaps the program could expand and become part of the Graduate Education Consortium active in Asia. Dr. Sastry agreed that it was dangerous to start a Ph.D. program that cannot be fully funded, even if this condition is clear to all degree candidates at the start.

In response to a comment that the thesis research should be done at the home institution, Dr. Lantican advised that the program remain flexible, as some institutions may accept research at another institution.

Regarding the roving short courses, Dr. Tisch suggested that perhaps a course on gender analysis could be offered. Dr. Lantican welcomed the suggestion, indicating that he would check with the cooperating institutions and ask them to assign its priority status as part of the process by which training needs were determined. Dr. Steele noted that A.I.D.'s Genesis Project (with subproject ECOGEN) is a centrally-managed course on gender analysis. Perhaps linkage with that would be more cost-effective than developing a new course.

Dr. Rao noted FAO's program of short course on gender/generation analysis held in Bangkok in November 1991 with World Bank funds, to which F/FRED sponsored an observer. From that course, nine case studies in Nepal, the Philippines, and Thailand were commissioned, and training materials would be generated. Perhaps F/FRED could sponsor case studies in other countries. There will be a follow-up meeting late spring 1992.

Dr. Raintree suggested that as a research network, the MPTS Network could contribute to the development of gender analysis methodology, and could productively interact with training courses.

Regarding other short training, Dr. Morison asked about F/FRED links with RECOFTC. F/FRED has sponsored participants to two of the three six-month courses offered to date, including Network scientists. Dr. Van Den Beldt observed that collaboration with RECOFTC was very worthwhile.

Dr. Steele commented that the F/FRED training program was one of the most innovative and aggressive training programs she had seen in a centrally funded A.I.D. project, and commended Dr. Lantican on its progress.

Regarding the introduction of correspondence courses, Dr. Lantican explained that a consultant might be engaged to backstop the course.

The Chairman concluded by requesting that F/FRED continue to seek opportunities for postgraduate training in forestry.

Information and Publications

Mr. Taylor presented activities in the Network Secretariat's publications program (see Appendix 2). He noted the recommendations on pp. 36-37 of the Kathmandu report concerning audiences for development, showing which of these the Network targeted in its program -- researchers and program planners, with extension an intended audience for some project publications. He explained that the field manual on how to conduct research on MPTS, prepared by Dr. C.B. Briscoe, was being revised and incorporated in the upcoming manual prepared in May 1991 at a meeting in Thailand co-sponsored with ICRAF. The manual, edited by Ken MacDicken, Gregor Wolf, C.B. Briscoe, and [this information will be obtained from Arlington], is being produced in Arlington as a global publication.

Regarding materials for extension, Mr. Taylor described the work underway to develop an extension manual, with co-sponsorship from FAO-RWEDP. The draft would be pretested with NGO staff and communications experts, then produced in

the first half of 1992. To encourage translation in local languages, the policies and layout considerations pioneered by the International Rice Research Institute in 'copublication' will be followed. In this way Research Committee members could authorize translation of the text by scientists and local printers could use the original drawings and graphics to produce an inexpensive edition for local use.

Mr. Taylor asked the Committee for its views on supporting national network publications, citing proceedings of national MPTS annual meetings as an example of what has been funded to date. The Chairman suggested that the Network should support national publications conditional to the availability of funds and the relevance to MPTS. The Chairman noted F/FRED's early support for the *Journal of Tropical Forest Science*.

On behalf of Ms. Norma Adams, F/FRED Publications Manager, Mr. Niblock raised the issue of project involvement in updating the National Academy of Science's manuals on Fuelwood Trees, produced in 1983. F/FRED had proposed to take up the project with a grant from the Forest Service, but the funds from the Forest Service were not forthcoming. Are other donors interested in funding this activity?

Issues for Discussion

In opening discussion of the issues paper, before the Committee, the Chairman suggested that the presentation order be changed somewhat, starting with Paper No. 5, and proceedings with papers 6, 3, 4, 1, and 2 (see Appendix 3).

New Fellowships Program

Dr. Lantican described the proposed new fellowship program outlined in Issues Paper Number 5, explaining the selection criteria and process, composition of the screening committee, and budget for a two-year program. The thesis research would be funded through the Small Research Grants program.

Further discussion of the merits and weaknesses of Ph.D. programs followed, with suggestions that a

program might be built to complement bilateral education programs. It was noted that if F/FRED joined with bilateral programs, it would have to accept the priorities, nominating, and clearance procedures already in place. From experience administering such programs, it was again noted that partial funding of such a program is dangerous. Mr. Niblock invited the Committee to find complementary funding with which to fund Ph.D. training; F/FRED efforts to gain such support had stalled. Dr. Sastry noted that for most donors, Ph.D. support does not receive high priority due to the variability of timeframe and the loss of participants who decide to stay abroad.

Dr. Suree noted the added benefit of the proposed program for strengthening research linkages among the institutions involved in the twinning program.

Dr. Van Den Beldt emphasized that the proposed program, in addition to the twinning opportunities, would facilitate on-farm research and strengthening of NGO capabilities by having Masters thesis research conducted at NGO sites. The proposal represents an integrated approach. Dr. Tisch expressed pleasure at the broad thinking taking place in F/FRED on fellowships and NGO involvement. She noted it may be useful to link with Winrock's program on Women in Natural Resources, a regional expansion of a program designed to train African women scientists. The ADB is interested in funding a needs assessment phase of the project, which could involve a number of women Ph.D. candidates.

The Committee endorsed the recommendations of the Issues Paper for the proposed Masters degree program. Still, the Chairman urged that if a Ph.D. candidate approached F/FRED with assured funds for completion of his or her degree, F/FRED consider such a proposal.

MPTS Scientific Achievement Award

Dr. Van Den Beldt reminded the Committee of the process in which MOU/LOA institutions were invited to nominate candidates for the award. This year the Secretariat received 10 nominations in the biological sciences and 2 in the social sciences. These nominations were presented to an external screening committee from the staffs of the

ASEAN-Canada Forest Tree Seed Centre, RECOFTC, and the Thai-FINNIDA forestry planning project. The disappointing response in the social science category was deemed an inadequate basis for an award. In the biological sciences, the screening committee recommended Dr. Fuh-Jiunn Pan, geneticist with the Taiwan Forestry Research Institute in Taipei, for his research on breeding *Leucaena* for greater pest resistance and a wider range of site conditions and end products. The award includes a research grant of up to US\$10,000, to be based on a proposal from Dr. Pan.

The Committee offered its congratulations to Dr. Pan in confirming the award.

Then followed a review of the nomination process. After some discussion, the Committee agreed that in the future, awards nominations should be invited not just from MOU/LOA institutions, but also at the national level from institutions involved in the national MPTS networks -- as a way to simultaneously broaden the net (particularly in the case of social science nominees) and strengthen the national networks.

Expansion into Indochina and the Peoples Republic of China

Dr. Van Den Beldt opened this discussion by noting that the Secretariat has received increasingly frequent expressions of interest from Vietnam and Laos in how scientists there can participate in Network activities. He asked A.I.D. and the Steering Committee to provide guidance on how to respond to these requests.

Dr. Suree voiced strong support for involving Laos and Cambodia in Network activities. Scientists in these countries are interested in agroforestry but lack information on species selection. FAO's programs are already active in these countries. Perhaps the Secretariat could invite representatives from these countries to attend the Research Committee meeting in May as observers. Dr. Pyakuryal asked if there were additional funding for this expansion, and expressed concern that the Network not overextend itself.

From A.I.D.'s perspective, it appears that with diplomatic relations established with Laos and moving in that direction with Cambodia, prospects for inviting representatives as observers were good. Involvement by Vietnam using A.I.D. funds may require more time to arrange.

Mr. Niblock suggested that other donors might support Vietnamese participation in the Network. Dr. Sastry expressed IDRC's interest in receiving such a proposal for a limited duration travel. Dr. Suree suggested that another option was to ask FAO to sponsor Vietnamese participation, and request IDRC instead to support representatives from Bhutan.

Dr. Rao observed that U.N. agencies has good programs in Vietnam and Laos. FAO representation is now starting in Cambodia, and will likely work through NGOs in that country. A report, *New Cambodia 1991* is now available.

The Committee endorsed the proposed geographic expansion of the Network and the suggestions put forward to invite other donors to support scientists from these countries.

Summary of Workshop on the Role of NGOs and Follow-up Activities

Mr. Taylor and Dr. Hegde reported on the workshop *The Role of NGOs in Promoting On-farm Tree-growing Technologies*, hosted by BAIF in Pune, India September 24-27, 1991. Co-sponsored by F/FRED, IDRC, FAO, and NFTA, the workshop presented a range of NGO activities and levels of cooperation with government organizations from five countries. It is important to select the most committed and grassroots-oriented NGOs for collaboration. If trained and supported, NGOs can conduct effective participatory research on farms.

Mr. Taylor presented Issues Paper Number 6, focussing on the proposed follow-up pilot activities with NGOs in linking graduate study research to NGO problems, process documentation, distribution of improved seeds to farmers through NGOs, and farmer visits to Network experiments.

Prof. Gunasena expressed pleasure at the increased involvement of NGOs in Network activities. In Sri Lanka two NGOs are on the national network committee. However, he echoed Dr. Hegde's caution that the Network must carefully select those research-oriented NGOs in developing these activities.

Dr. Sastry suggested that using a wider definition of research, most NGOs are research oriented, in that they seek to adapt technologies to local conditions, and that they can provide process documentation of the development experience.

Dr. Pyakuryal congratulated BAIF and F/FRED on the workshop. He asked if, by singling out NGOs among the three types of organizations involved in the Network (the other two being government organizations and universities), the program was shifting focus to NGOs. Mr. Taylor suggested that because involvement with government organizations and universities had been prerequisite for Network linkages at the national level, these organizations were already well established in the Network. The workshop, mandated by the Research and Steering Committees, and the limited pilot activities that followed from the workshop recommendations, represented an effort to correct what was seen as an earlier imbalance.

The Chairman acknowledged comments that cautioned against spreading resources too thinly, but observed that extension is a key aspect in the development and transfer of MPTS technologies, and that NGOs can play an important role here. He echoed the proviso that selection of NGO cooperators should be careful. With that note, the Committee endorsed the proposed follow-up activities.

Strengthening National Programs through Research Networks

Dr. Van Den Beldt introduced the topic, saying that with both CIFOR and ICRAF entering the CGIAR system with mandates to network, it is timely to review the MPTS Research Network's approach to working with and developing national institutions.

Mr. Niblock provided a background note to the discussion, remarking that the Issues Paper urges basically the program currently being followed, except pressed more strongly. Dr. Awang said that the new forestry center will be obligated to conduct 70% of its research in a networking fashion. He then provided an overview of Issues Paper Number 3. MUSFAD was presented as an example of the coordinating role that regional networks can play in working with national institutions.

Asked where the initiative to coordinate information dissemination would come, Dr. Awang replied that the national secretariats would take the lead, with F/FRED supporting their expansion to take on that role. Dr. Hegde suggested that the situation and initiative would vary from country to country.

In Bangladesh, the Agroforestry Working Group has set up an MPTS committee to act as the national F/FRED link; in Thailand, a formal 13-member subcommittee under the National Research Council was established to deal with MPTS. Two NGOs will be invited to serve on the subcommittee in the future. In Malaysia, the national MPTS network was established in 1988. It was the first to distribute a national newsletter and identify research priorities and training needs.

Dr. Pyakuryal explained the working arrangement for the national committee in Nepal, run through the Director General of Forestry Research. He suggested that if the national secretariats or committees are to arrange exchange visits, it will be important to clearly set out the selection criteria and announce them beforehand, in order to avoid the impression of partiality and its discouraging effect. To date, there is no information dissemination center, although one may start under the Forestry Research DG.

Dr. Sastry asked if the massed resources of the Tropical Forestry Action Plan and national master plans could take on some of this work.

Prof. Gunasena reminded the participants of the need for sustained momentum for national network development, and the importance of continuity of the residence of the network secretariat, depending on the situation. Seed money from F/FRED to support fax and communications costs is needed.

Dr. Morison commented that in this regard CIFOR may also be able to provide support when it becomes active, and A.I.D. will do what it can in this regard. He reiterated that national networks need to ensure the continuity.

Dr. Rao stated that, while the recommendation appears a bit vague, there is definitely a role for F/FRED to strengthen MPTS research in each national program; perhaps it should stress information dissemination in the national context.

The Committee endorsed the Paper's recommendations, with the proviso that the national committees identify the priorities for their situation.

Coordination with Other Networks

Dr. Van Den Beldt noted that there were many other networks active in the region, and that new ones had been proposed. He invited discussion of the goals of these new and existing networks in order to clarify areas of overlap and identify discrete roles for each.

A list emerged of the following networks, both formal and informal, relevant to MPTS (sponsor agency in parentheses):

- MPTS Research Network (USAID)
- Bamboo and Rattan networks (IDRC)
- Rural Wood Energy Development Programme (FAO)
- ASEAN Institute of Forest Management (CIDA)
- ASEAN-Canada Forest Tree Seed Centre (CIDA)
- Tree Improvement for Farm Forestry, or TIFFNET (IDRC)
- Mycorrhizae Network (IDRC)
- Forestry Economics Network (IDRC)
- Leucaena psyllid control (IDRC)
- Asia-Pacific Agroforestry Network (FAO)

The Leucaena psyllid control network includes institutes in the Philippines, Indonesia, and Canada, and complements the regional plan funded by F/FRED from 1987-1990.

With a full-time coordinator and secretariat support staff in Indonesia, APAN is a formalized network that supports workshops and publications, and selected research topics. The project is funded for an initial 20-month phase.

It was noted that among IDRC-supported networks, only the Mycorrhizae Network resembled the MPTS Network as a formal network. It has a fixed lifespan, and is funded at CD\$350,000 to support national institutes, through a nominal coordinator.

New networks getting started include:

- ITTO network on forestry research (ITTO)
- Tree Improvement Network (FAO)
- Rainforest Management Program (now being planned by FAO and ADB)
- Forestry Support Program for Asia, or FORSPA (FAO-ADB)

FORSPA will become active in January 1992, with the objectives of: (1) encouraging research and dissemination of research results to field technicians and farmers through local language materials; (2) developing research information technology at 10 selected national forest research institutes (FRIs) through a contract with CAB to provide CD-ROM facilities and training; (3) otherwise develop national forest research institutes. FORSPA's clients are national FRIs. Its priority topics are: upland watershed management, especially economics and externalities; improved sustainability of plantation forestry, including non-wood products; biodiversity; reforestation of degraded sites; and community participation, with a gender analysis focus (see FAO's *Tiger Paper* vol. 18, no. 3, September 1991). FORSPA will operate through provision of funding and critical inputs. The first meeting of the committee, to take place in January 1992 in Malaysia, will tackle how to do this.

Dr. Van Den Beldt noted that many of these networks look to CIFOR for continuity in the future, but all will not be absorbed. The Chairman felt it was too early to pre-empt the selection process of the CIFOR planners. While it is right to be concerned about overlap, some degree of it is

to be expected and allowable. The Chairman urged the Network Secretariat to be in constant contact with other networks to reinforce each other with joint activities, but not to the extent that these joint activities overextend resources and override priorities established by the Steering and Research Committees.

Dr. Rao agreed, adding that managers of networks must work within their mandates.

Dr. Stec'ie suggested that there may be a need to monitor the demands of the networks on the limited national manpower. Clearly this is a problem; saying no is hard. While recognizing the importance of networks, the Committee expressed concern over the proliferation of networks that are not matched by efforts to develop national research systems' ability to absorb the activities. National institutions must be strengthened to ensure greater absorptive capacity.

Defining the Network's Mandate: A Socioeconomic Perspective

Dr. Raintree presented Issues Paper Number 4. In introducing it, he noted that much of the paper merely made explicit ideas that had been assumed or implicit in the Network's program. He said that with international developments and a changing approach to forestry, it was timely to make a clear statement to others with regard to the Network's stand on these issues.

There followed lengthy discussion as to the need to put the Network's positions in such defined terms, and the program implications of the recommended stands.

Dr. Pyakuryal noted that no government Forestry Department was created at the request of farmers. With the changing approach that foresters should also be extensionists, what is the overlap between Forestry and Agriculture? How do we encourage government attitudes to align on this?

Dr. Raintree agreed that farmers did not ask for the creation of Forest Departments. Assessed negatively, this could be cited as the reason why many forest departments are now experiencing problems in doing the job they set for themselves.

In a more positive light, it can be said that governments do have a role in looking after resources from a collective viewpoint, and that in this task they should seek to harness people's unenlightened self-interest to the society's advantage.

In studying these issues, it is best to adopt a land user's perspective. Since farmers use both the resources of their farm and public resources near them, this should form the basis of a research orientation, as stated in Recommendation 1. The focus is the forest-human interface, with an emphasis on the products that communities obtain from trees.

After further discussion, Dr. Van Den Beldt reiterated that the paper was intended to re-affirm the Network's interest in the production role of trees, rather than their service role. In focussing on trees' abilities to provide rural growers with commodities, the Network would complement the work of ICRAF and others studying nutrient cycling, soil erosion, and systems dynamics.

The Committee adopted this restatement of the position, reinforcing the Network's mandate for a focus on the ability of trees to provide commodities to households. The Chairman cautioned against staking "territory" too early in the development of events. The problems are vast and it is important to work with others.

Involvement in Natural Forest Management

Mr. Niblock introduced the two remaining issues papers with the note that A.I.D. had not yet made its decision on how to support the area of natural forest management. In this regard he asked for the Committee's views.

After discussion, the Committee concluded that, while the Network had developed the strength of networking, its area strength lay in MPTS and should not be overextended. Recognizing that A.I.D. wants to support natural forest management, the Committee asserted that the MPTS is already actively working to conserve the region's resource base, and that the existing network should be strengthened.

Committee members also suggested that changing the Network's name changes the working equation disproportionately, particularly at the national level, where it is considered that natural forests are the domain of the government, not farmers. This perception may lead to conflicts with other programs, such as national master plans. It would also give the impression of charging target groups, from farmers to governments.

Dr. Van Den Beldt echoed Dr. Hegde's comment that commodity extraction is a motivational factor in forest degradation, and that by giving farmers resource management options in terms of agroforestry, the MPTS Research Network is contributing to management of the overall resource base. The extension beyond farmers' fields to the management of natural resources for community-needed products is a logical extension of this framework.

Given the discussion, Dr. Steele suggested reversing the order of the proposed recommendations: that is, a study should first be conducted to determine if and how the Network can contribute to initiatives in natural forest management.

The Chairman observed that a shift in the Network's mandate would require more consultation. Until then, the Committee is committed to pursuing the agenda of MPTS research, despite the apparent shift in donor priorities. There is still a need for better MPTS research and dissemination of results, and these should be strengthened. The work in which the Network is already engaged in is very relevant to natural forest and resource management.

In this light, Dr. Van Den Beldt requested that the Committee authorize a study to identify possible contributions of the MPTS Research Network's experience toward the development of an international initiative to support Natural Forest Management. The Committee agreed to authorize a study of this nature using limited resources; the study should be presented at the next Steering Committee meeting.

The Chairman concluded by thanking the participants for the useful frank discussion of the issues. He thanked Mr. Niblock and Dr. Morison for their continued support for the Network, and

expressed that hope that A.I.D. would continue its support. The Network now has energy and momentum that can sustain it.

Following this discussion, the Steering Committee:

- (1) endorsed unreserved support for the MPTS Research Network, and agreed that it should be maintained in its current form;
- (2) suggested that the Network should look for additional support through other donor buy-ins; and
- (3) suggested that the Committee members look for ways and means for institutionalizing the Network in their own countries, using local means if necessary.

The Committee expressed its commitment to the Network beyond the 10-year timeframe of the F/FRED Project.

Dean Niwat proposed that the project's donor should be congratulated for this participant commitment and intent to institutionalize the Network.

Venue of the Next Meeting

Given that the current meeting was originally scheduled to take place in Peshawar, hosted by the Pakistan Forestry Institute, the Committee agreed that the next meeting should take place in Peshawar, November 30 - December 2, 1992, and should include a one-day field trip.

Closing Remarks

In his closing remarks, Mr. Niblock expressed Winrock's pleasure at the growth of the project and

the substantive progress of the activities. He appreciated the advice and support of the Research and Steering Committees in the Network's program.

Dr. Suree reminded the Research Committee representatives that the next meeting would be May 20-30, 1992, in Taipei, ROC.

On behalf of A.I.D., Dr. Morison also thanked the Committee for its discussion of the issues. He expressed personal appreciation for the opportunity to meet the Committee and the observers and witness the dynamic network process. Dr. Steele added that following this meeting, the RD office could be very comfortable with its contribution to the project; she was very impressed by the performance of the Committee and of Winrock.

Dr. Rao again commended the authors of the Research Committee report, citing it as a model for others. He observed this was probably the best Steering Committee meeting he had attended. He also offered his best wishes to Dr. Van Den Beldt, saying he looked forward to his and the Network Secretariat's cooperation and team work. Being so far removed from the action at the grassroots level, donors should work together as one team.

The Chairman suggested that future meetings should continue to use issues papers to present agenda items, and urged Committee members to contribute papers as well, submitting them to the Network Secretariat well in advance of the next committee meeting. He offered his thanks to the other participants, and best wishes for the coming year.

The participants expressed their appreciation to the Chairman for his leadership.

Appendix 1: MPTS Information Systems Development

In 1992, the F/FRED Global Research Systems Staff will complete development of Version 3.0 of MPTSys, a microcomputer information and decision support system. MPTSys supports research of the Multipurpose Tree Species (MPTS) Research Network in Asia, and MPT research globally.

F/FRED's collaboration with other international research organizations has focused on entry, exchange, and use of summarized MPTS research data worldwide. Technical support for the Network Secretariat and Network cooperators has included research design, minimum data sets, standardized methodology, training and support for users of IADSS (MPTSys's forerunner), information exchange, data summarization, and workshops on data analysis and interpretation. These activities will be coordinated and enhanced when a systems specialist joins the Network Secretariat sometime in 1992.

MPTSys is based on a modular approach to software system design, with components consisting of database management and application programs. Stand-alone components give flexibility for users to install selected components to meet their needs and resources. The system is accessible, decentralized, and does not require training in computers or database management. Standardized screens, options, and menus among the components, along with 'help' windows, reduce the time required to learn the system.

Research Databases

MPT_DATA	Experiment Database <i>Stores experiment/trial data at the stem, tree, and/or plot levels. Also stores site characteristics. Creates analysis data sets for MPTModel and MPTStat.</i>
MPT_INFO	Summary Database <i>Stores experiment/trial data at the treatment summary level. Creates analysis data sets for MPTModel and MPTstat.</i>
MPT_SOIL	Soil Database <i>Stores chemical and physical characterization data of tropical soils at the horizon level. Creates input files for MPTGro and MPTModel.</i>
MPT_CLIM	Climate Database <i>Stores long-term climate data as monthly means. Creates input files for MPTGro and MPTModel.</i>
MPT_WTHR	Weather Database <i>Stores daily weather values. Creates input files for MPTGro.</i>
MPT_FARM	Farm & Village Forestry Database <i>Stores socioeconomic data at household, village, district, and national levels.</i>

Decision Support Packages

MPTStat	Data Analysis and Modeling <i>Provides statistical procedures for data summarization, inference and graphics. Accepts inputs from the Experiment and summary Databases.</i>
---------	--

MPTGro	Growth Simulation <i>Provides tree growth simulation with or without water stress. Accepts inputs from the Soil, Climate, and Weather Databases.</i>
MPTModel	Species* Environment Modeling <i>Provides environment by species performance prediction analysis. Accepts inputs from the Experiment, Summary, Soil, and Climate Database.</i>

Reference Databases

MPT_PROS	Specialist Database <i>Stores information about MPT professionals.</i>
MPT_DOCS	Abstract Database <i>Stores citations and abstracts.</i>
MPT_SPP	Species Digest <i>Stores species characteristics and environmental requirements.</i>

Technical Advisory Committee (TAC)

Through the Research Committee, a technical advisory committee of Asian scientists met in December 1990 and assisted in the development of MPTSys3. The meeting identified prospective subsystems customized for specific user groups:

- a) MPT_DATA - MPT_INFO - MPTStat
- b) MPT_SOIL - MPT_CLIM - MPT_WTHR - MPTGro
- c) MPT_DATA - MPT_INFO - MPT_SOIL - MPT-CLIM - MPTModel
- d) MPT_FARM - MPT_INFO - MPTGro/MPTModel - MPTEcon*
- e) MPT-SOIL - MPT_CLIM - MPT_FARM - MPT_INFO - MPT_SPP - MPTMap*
- f) MPT_SPP - MPT_DOCS

MPTSys Development

In 1991, system development has focussed on completion of:

- (1) a user-friendly, decentralized, and fully operational MPTSys with integrated stand-alone database/decision support subsystems and stand-alone databases,
- (2) stand-alone subsystems, including
 - o an improved and expanded **experiment subsystem** for data entry, storage, analysis and exchange of field plot and subplot measurements from network experiments and other trials

MPT_INFO and MPT_DATA create input files for use with MPTStat.

*The needs for MPTEcon and MPTMap will be met through the Network Secretariat.

- o a **growth and yield subsystem** for growth simulation integrated with the climate, soil, and weather databases

MPT_WTHR, MPT_SOIL, and MPT_CLIM create input files for use with MPTGro.

- o a **species technology transfer subsystem** for environment (trial data) predictive modeling supported by international tropical climate and soil databases

MPT_INFO, MPT_DATA, MPT_SOIL, and MPT_CLIM create input files for use with MPTModel.

- o a **global data subsystem** for exchanging and using summarized data and tree crop species information internationally

MPT_DATA provides input files for use with MPT_STAT, output of which may be summarized and stored for additional analysis in MPT_INFO.

- (3) stand-alone databases including farm and village forestry, abstract, and MPTS specialist databases.

MPTSys makes it easy for researchers to interact with it and incorporate their experience in an intuitive setting. Individual database and application components of the system form various subsystems to match species requirements with site characterizations and to compare management strategy options. The system combines common tools for research stewardship with a focus on data management (conservation, accessibility, and summarization) and decision support.

Appendix 2: Network Secretariat Activity Reports

Activity Area: Arid and Semi-arid Zone Network

Principal activities in 1991:

1. Plantings and site visits of all network trials completed.
2. Network meeting held September 22-26 in Kandy, Sri Lanka to review progress and plan future activities.

Principal ongoing activities for 1992:

1. Existing trials will be maintained and data collected according to previously agreed protocols.
2. National meetings will be held early in 1992 in India, Nepal, and Pakistan.
3. MOUs and LOAs will be renewed and/or strengthened.

New activities in 1992:

1. Full-time staff position with the Network Secretariat will be filled.
2. New network trials with *Azadirachta indica* (neem) will be planned and implemented.
3. Greater emphasis will be placed on the activities of national networks.
4. An inter-regional workshop (West Africa and South Asia) on *Azadirachta indica* is proposed.

Activity Area: Humid and Sub-humid Zone Network

Principal activities in 1991:

1. Initiation of a second set of multilocation field trials involving 33 sites in 7 countries. This included identification of cooperators and sites, seed procurement and dispatch, preparation of trial manual, and collection of soil samples from each site.
2. Compilation and review of 36-month data from the 1987 Network trials for analysis and preparation of a final report.
3. Monitoring the progress of international *Acacia auriculiformis* provenances trials, standardization of methodology for making later measurements (including tree form ratings), and data compilation for analysis of early results.
4. Participation in national MPTS network meetings.
5. Organization and co-sponsorship of a workshop to develop a manual on Standard Research Methods for Multipurpose Trees and Shrubs, in collaboration with ICRAF, CATIE, OFI, ICRISAT, FAO and DANIDA Forest Seed Centre.

Principal ongoing activities for 1992:

1. Finalize the 36-month intersite analysis of the 1987 trials.
2. Monitor the progress of 1991 trials through field visits.
3. Perform data analysis and prepare a report of the *Acacia auriculiformis* provenances trials.
4. Monitor the implementation of small research grant projects.
5. Participate in national MPTS network meetings.

New activities in 1992:

1. Establish *Acacia auriculiformis* seed orchards in five countries for future seed production.
2. Organize a consultative group meeting on Research and Development of Acacia.
3. Produce a monograph on *Acacia mangium* from the findings of national, regional and F/FRED-sponsored research.
4. Organize a workshop to evaluate the MPTGro predictive modelling package.

Activity Area: Applied Social Science and Interdisciplinary Studies

Principal activities in 1991:

1. Consolidation of results from the Farm and Village Forestry Practices Study, with: 1 regional summary analysis, 1 national summary analysis (Philippines), 1 subregional comparative analysis (South Asia), 1 regional thematic analysis (MPTFS), 10 village case studies, software enhancements for computer storage of FVF data sets from the 26 study villages, external review of the survey methodology, and follow-up meeting of network cooperators.
2. Consolidation of results of the Farmers' Tree Breeding Objectives Study with: publication of 2 articles, preparation of 10 new site summary reports, and follow-up meeting of network cooperators.
3. Initiation of a new round of case studies and comparative analyses on farm and village forestry patterns and practices, with 7 small grants and commissioned studies in Nepal, the Philippines, and Sri Lanka.
4. Commissioning of a network issues paper on gender in farm and village forestry practices.
5. Development of prototype geographic information systems for analysis of farm and village forestry patterns and practices, for use in research planning at regional (NS) and national (RP pilot project) levels.
6. Initiation of the Marketing Network, with 7 case studies in Malaysia, Philippines, and Thailand.
7. Launching of the *Artocarpus* Network within the Community-Based Tree Improvement program, through: a pilot project (Philippines) and a literature review for a second project (Sri Lanka).
8. Start of two projects on general Extension R&D methods in community-based action research.

Principal ongoing activities for 1992:

1. Monitor and backstop regional comparative analyses and case studies of farm and village forestry patterns and practices within the Regional Comparative Studies Network.
2. Continue prototype development for regional and national geographic analysis systems.
3. Monitor and backstop research projects in the Marketing Network.
4. Monitor and backstop the Jackfruit Pilot Project in Cebu.

New activities in 1992:

1. Initiate 5-6 new regional comparative analyses and case studies.
2. Initiate 3-5 new marketing studies.
3. Initiate 2-5 new small research grants.
4. Initiate community-based tree improvement projects in two more countries.

Activity Area: Economics

Principal activities in 1991:

1. A staff Economist was recruited for the Network Secretariat, starting work on 15 May, 1991.
2. Three out of 27 (later reduced to 26) small research grants for 1991 related to economics.
3. The staff Economist attended the International Workshop on Financial and Economic Analysis of Agroforestry Systems, held at Chaminade University, Honolulu, Hawaii. Other participants came from various agencies, such as NFTA, CARE, ICRAF, CATIE, and ILCA. The workshop drew up preliminary guidelines for economic analysis of agroforestry systems. This will be detailed in forthcoming proceedings.
4. The 1991 trial guide was prepared by the Humid/Subhumid Zone Specialist. Labor input is the only economic data that will be recorded in the field measurement for the experiment. The manual recognizes that other important economic variables will need to be collected, as specified by additional instructions that will be sent to cooperators later.

Principal ongoing activities for 1992:

1. Formulate bioeconomic methods in countries of network trial experiments, primarily in the Humid/Subhumid Zone. A small grant will be awarded to broaden the scope of this work.
2. Coordinate market and marketing studies of MPTS products. Five small grants will be designated for this area.

New activities in 1992:

1. At the end of 1992, an expert consultation will be convened to review past work, bioeconomic methodology, and work plans for 1993.
2. Develop and coordinate intra-regional comparisons. Start to prepare a synthesis of an in-depth comparative study, to be completed by mid-1993.

Activity Area: Training

Principal activities in 1991:

1. Monitoring of progress of Ph.D. fellows' dissertation research.
2. Implementation of the short-term training program approved by the Research and Steering Committees.
3. Inventory of existing training materials for social-science research.
4. Preparation of computer desktop presentations for training.
5. Development of a new graduate fellowship program.
6. Development of a training course by correspondence.

Principal ongoing activities for 1992:

1. Complete Ph.D. fellowship program with Michigan State University.
2. Organize in-country short courses.
3. Prepare computer desktop presentations.
4. Prepare inventory of existing training materials.

New activities in 1992:

1. Implement the new graduate fellowship program.
2. Implement correspondence training courses.
3. Participate in curricular development activities of academic institutions in the network.
4. Disseminate information on available training materials.
5. Develop a video on research techniques for use in training.

Activity Area: Information and Publications

Principal activities in 1991:

1. Production of Research Series reports (3), bibliographies and compendiums (2), manuals (1), handbooks (1), special reports (Research Committee), proceedings (1), project progress reports (1), and press releases (1).
2. Initiation of *MPTS Research Notes* with five issues.
3. Coordination of extension manual preparation: Following a decision taken by the Research Committee, authors met October 29-31 in Bangkok with an editor and illustrator. Manual will be co-sponsored by FAO, with support from NFTA.
4. With BAIF, organized an international workshop on the Role of NGOs in Promoting On-farm Tree-growing Technologies, September 24-27. Workshop co-sponsors: IDRC, FAO, NFTA.

Principal ongoing activities for 1992:

1. Pretest, finalize, and distribute extension manual.
2. Produce reports of research findings and methods, as prepared by NS and Network members. Plans include a co-sponsored proceedings on *Faidherbia albida*, report of the NGO workshop in Pune, reports of small Network meetings and national FVF analyses, and an *Acacia mangium* monograph.
3. Produce *MPTS Research Notes* bi-monthly.
4. Produce progress reports, including the annual report for 1991.
5. Pursue NGO follow-up activities (see Issues Paper No. 6).
6. Assist small grant awardees to publish findings where appropriate; arrange for synthesis of findings from related grants; and issue a compilation of abstracts of grant results.
7. Improve the quality and organization of the NS slide library and publications distribution system.

New activities in 1992:

1. Produce an updated network directory with facts on network institutions.
2. Work with Training Officer on training publications and video.
3. Equip the NS with CD-ROM facilities for responding to Network scientists' requests for literature searches.
4. To raise awareness of MPTS role in food production, assemble MPTS recipe book from contributions received.

Appendix 3: Issues Papers

Issues Paper No. 1

Establishment of a Natural Forest Management Network

Discussion

The U.S. Agency for International Development plans to support the establishment of a natural forest management network in Asia, and has invited Winrock and the MPTS Network Secretariat to consider expanding the MPTS Research Network to include natural forest management. The concept is twofold:

1. that research is needed at five levels of forestry practice:
 - * reserve forests
 - * productive forests
 - * degraded forests
 - * tree plantations, and
 - * farm forestry (MPTS and agroforestry)
2. that networking, as demonstrated by the MPTS Research Network, could usefully expand from farm-level forestry to include tree plantations and restoration of degraded forest lands.

Before responding to this offer, the Network Secretariat seeks the views of the Steering Committee. This paper sets forth the issues involved as viewed by Winrock and the Network Secretariat.

First of all, it is an honor for the MPTS Research Network to be asked to take on this expanded role. A number of other organizations might have been selected. Any decision to proceed, however, should be made within the context of a clearly defined role for the Network, and within the means of its resources. The MPTS Network should not take on responsibilities for which it does not have a comparative advantage; nor should it spread its existing staff thinner to take on new tasks. As a basis for further consideration by all parties concerned, Winrock and the Network Secretariat have prepared the following tentative scope of work for a natural forest management research network within the MPTS Research Network. Also provided are related staff and financial requirements.

Natural Forest Management Network

The Multipurpose Tree Species Research Network in Asia is in a unique position to add dimensions of natural forest management to its already successfully established MPTS network. The specific land-use types that the MPTS network could add to its current emphasis on farm forestry to make significant research contributions are:

- * tree plantations (for improved species on poor agricultural or grasslands)

- * degraded forests (to be upgraded by reforestation and enrichment plantings with productive tree and non-timber forest species under appropriate local management)
- * productive forests in the vicinity of human settlements (for which productive and sustainable multiple-user and multiple-use management systems need to be developed)
- * reserve forests (for maintenance of biodiversity and parks)

The new natural forest management network would operate in close association with institutions, governments, and PVOs whose primary interests are in these areas.

Under this expanded scope of work, a natural forest management network would be developed whose categories of activities may structurally parallel those of the MPTS Network. The activities themselves would be thematically integrated with or complementary to those of the existing Network.

The MPTS Network has successfully conducted multilocation trials in the humid/subhumid and arid/semi-arid environmental zones of Asia, with the aim of improving the production and use of selected MPTS. A number of the tree species, propagation techniques, and research practices tested could be used in reforestation of degraded forests and grasslands, as well as in establishment of plantations.

The MPTS Network would broaden the scope of its research to conduct multisite experiments on additional species potentially suitable for plantations and recovery of degraded forest lands. Many of the Asian research cooperators currently involved in the MPTS Network would have knowledge of and interest in participating in the new network. They would also be focal points for bringing others involved in forest management into the new network. Using the human resources of the MPTS Research Committee would be a cost-effective way of attracting such interest.

The MPTS Steering and Research Committees would be called upon to consider and advise regarding policies and practices to be advocated by a new, regional forest management network.

The new or expanded network, as stated above, would reflect the structure of the MPTS Network. The advantage of using an already established framework is that new activities can be carried out with minimum cost and formality. In addition to multilocation field trials, specific activities would include theme workshops, small research grants, and training.

The social-science knowledge and tools developed through the existing MPTS Network would be applied to ensure that research for improved forest management practices is relevant to the needs of indigenous peoples and small-scale farmers, and is compatible with sustainable development and long-term environmental concerns.

Using MPTSys, the computer software developed under the F/FRED Project, scientists would be able to record, manage, and analyze experiments and develop predictive models that can integrate the needs of indigenous peoples and small-scale farmers with the broader concerns of sustainable development and environmental management.

Theme workshops would give scientists opportunities to discuss such issues as: forest-product marketing for smallholders who plant fast-growing trees, assessing the effects of marketing systems on small-scale farmers, and improving the competitiveness of such systems.

At the national level, the concerns of the forest management network would be integrated with the national research networks already established under the F/FRED Project. At this level, NGOs and other interested parties can become involved in the particular concerns and needs which vary from country to

interested parties can become involved in the particular concerns and needs which vary from country to country.

At the macro-level, the new regional network would extend to the global level and be closely coordinated with activities of forest research organizations and IUFRO. To date, the F/FRED Project has enjoyed significant collaboration with scientist outside Asia, including Latin America (CATIE), Africa (ICRAF), Australia (CSIRO), as well as Canada (IDRC) and Europe (OFI). These well-established working relationships can be used to address the broader concerns of forest management. We expect there would be opportunities to conduct collaborative research with these and other international organizations to address urgent global problems. The extensive farm-level knowledge and experience gained through the MPTS Research Network and elsewhere will be a useful basis for this collaboration. It is assumed that the proposed new international forestry research entity being established within the CG system will have a strong interest in natural forest management, and that the MPTS Network will have close linkages to that institution.

Expansion of the scope of work of the MPTS Network as proposed above would suggest a new name for the enlarged effort. (See Issues Paper No. 2.)

Staff and Financial Requirements

Notwithstanding significant economies which can be realized by incorporation of a forest management network into the existing MPTS Network, a new network would require addition of a full-time network specialist, support staff, and an operating budget. A preliminary estimate of such costs is a minimum of \$ 1 million per year of core funds from USAID, to be augmented by other donors as the network program develops.

Recommendations:

1. That Winrock advise USAID that the Steering Committee supports the expansion of the Network's program to include natural forest management.
2. That the Network Secretariat proceed with appropriate steps to establish a natural forest management network in Asia. This would include preparation of a detail plan and budget for establishment and operation of the new network.

Issues Paper No. 2

Proposed Name Change for the MPTS Research Network

Discussion

The MPTS Research Network is expanding, encompassing other topics not directly related to multipurpose trees. Therefore, the current name of the network no longer fully describes its activities. An expanded program suggests the need for a more appropriate title. "Asian Forestry Research Network" would be more descriptive of such an expanded network.

In addition, this broader title would facilitate identification of our existing Network with the anticipated new international forestry research entity being established under the aegis of the CGIAR system. Plans for the new entity call for 70% of its funding to go to national research programs and to regional research networks. The suggested name change would strengthen the rationale for a partnership between the new international entity and our network.

A further benefit of a name change would be to distinguish the agenda of an expanded Asian MPTS/natural forest management Network from that of ICRAF.

AID, as our principal donor, has expressed sufficient confidence in the growth and development of our Network to offer additional funds to permit expansion into related areas of natural forest management. It has indicated a less restrictive name would be preferred in relation to increased funding.

Recommendation:

That the Steering Committee endorse the proposed change of name, from the MPTS Research Network to the Asian Forestry Research Network.

Issues Paper No. 3

Assisting National Programs Through Research Networks

Introduction

Forestry research in the tropics will get a boost in funding through the new international forestry research entity being established under the CGIAR system. It is expected that about 70% of this funding will go to national research programs and regional research networks. In this scenario, regional research networks should support and complement national research programs rather than compete with them.

The Multipurpose Tree Species (MPTS) Research Network with its expanded mandate shares this view and is very committed to this goal. Building on its past successes and using its established contacts, the Network is well placed to provide more assistance to national programs. The Network Secretariat has outlined a plan for this purpose, presented here for consideration by the Steering Committee.

Plan Outline

The plan's overall objective is to promote research relevant to national needs through effective prioritization, coordination, and implementation of research programs, and through enhancement of the capabilities of national research institutions.

Prioritization and Coordination of Research

The level of development of forestry research programs varies from country to country. For countries such as Malaysia, Nepal, and the Philippines, national priorities for research have been defined in their Forestry Sector Master Plan or Forestry Action Plan. Other countries may not have undertaken these planning exercises yet. Even with defined research thrusts, coordination among research institutions within each country may be limited. The MPTS Network, even with an added forestry mandate, can help improve this situation by strengthening national networks. Through this means each country will have the opportunity to:

- * organize national meetings involving relevant organizations and individuals for consultation;
- * prepare research programs that focus on the critical problems;
- * distribute responsibility for implementation of research programs among organizations;
- * develop integrated research proposals for funding by other donors;
- * identify long- and short-term training needs;
- * establish a national secretariat to act as a contact point and information dissemination center;
- * promote twinning arrangements and staff exchange among institutions within the country.

Regional Network Research Programs

The Network's research programs have been developed with scientists from the participating countries. In this way, the research planning process ensures that programs support the interests of these countries. For younger scientists, the Network has provided opportunities to conduct collaborative research with colleagues of different disciplines and nationalities. It is a learning experience.

The MPTS Research Network will continue to act as a catalyst for scientists in the region to develop regional programs with national components (for example, MPTS Utilization for Small Farm Development), the funding of which may come from outside the MPTS Research Network itself.

Research projects valued by one country but which may or may not be relevant to other countries will also be supported. Another strategy is to contract out research with regional applications to a few institutions with relevant expertise to ensure success. These options for implementation will continue to be important in future Network activities.

Enhancing the Capability of National Institutions

National research program can only be successful if the national institutions have adequate resources in terms of trained manpower, materials and physical facilities, funding, and proper management. The MPTS Research Network can enhance national institutions' capability with the following two-step approach.

1. *Survey national institutions* to determine the research capabilities of key forestry research institutions in the region. The exercise should include the preparation of a list of institutional strengths and ways by which they can be further strengthened. This would provide baseline information for subsequent support by CGIAR, the MPTS Research Network, or others. With its existing contacts and participants, the MPTS Network is in an advantageous position to undertake this study.
2. *Greater national participation in the Network's programs.* Regional programs of the MPTS Research Network benefit participating scientists and institutions in a number of ways, directly or indirectly increasing efficiency of national programs. More of these are planned for the coming years, including:

Training: The program will consist of four major components.

1. Graduate training support, which will be modified to include only MSc training in regional universities. Support can be provided either as fellowships for graduate training or financial support for graduate theses research only.
2. Short-term training, consisting of courses offered in participating countries on a roving basis, at a central location, or by correspondence. Training courses can be expanded depending upon national requirements. Support for participation of MPTS scientists in relevant courses developed by other organizations will continue.
3. Development of training materials, which will focus on the inventory and development of manuals, slide sets, video programs and computer software to be available to national institutions for training.
4. Assistance for curriculum development in certain countries to meet the national manpower training needs.

Conferences, Workshops and Theme Meetings: The MPTS Research Network will continue to organize or co-sponsor theme meetings which provide opportunities for scientists in the region to discuss research problems and share knowledge with their colleagues. Support for scientists to participate in meetings organized by other organizations will also continue.

Exchange Visits by Scientists: Short-term visits by Network scientists to other national and international institutions would be supported to assist host institutions to develop key areas of research, as defined in the national program. Longer term (up to 1 year) visiting scientist program should be set up to allow participating researchers to join the Network Secretariat to work on specific topics. Staff visits by research managers of more established regional institutions to younger institutions for program development would be a potentially useful service.

Other Research Support: The MPTS Research Network will continue to refine MPTSys, the computer software which will be made available to interested scientists or institutions. Scientists will be able to record, manage, analyze experimental data and develop predictive models for species introduction and performance under various management practices. Databases developed as parts of MPTSys will also be useful to scientists working on topics beyond the scope of F/FRED.

Support for upgrading national institution libraries through purchases of new books and/or journal subscriptions will continue. With the development of CD-ROM reference facilities, the Network Secretariat will also begin a literature search service in key fields of forestry, forest products and agroforestry.

The libraries of many national institutions need to be modernized to keep abreast of the information technology revolution. Management information systems (MIS) using computers may be required in certain institutions. Support in this effort may be given.

Recommendation:

That the Steering Committee endorse the proposed plan for the MPTS Research Network to assist national research programs.

Issues Paper No. 4

Definitions and Mandates: A Socioeconomic Perspective

Two Definitions of Agroforestry

The CGIAR planning documents for an International Forestry Research Institute (IFRI) recognize two fairly distinct areas of specialization between forestry and agroforestry, and a large area of overlap in the middle ground. We can avoid much confusion if we acknowledge from the outset that there are two definitions of agroforestry in widespread use today, a narrow one and a broad one. Both are legitimate and together they provide a basis for a meaningful division of labor between ICRAF and the IFRI-associated institutions.

The narrow definition, espoused by ICRAF for research purposes and adopted as its long-term institutional focus, restricts agroforestry to those situations in which there is a *direct ecological interaction between trees and either agricultural crops or livestock (ICRAF 1990)*. Alley cropping is the quintessential example of an agroforestry system in this narrow definition.

The broader definition of agroforestry covers all those forms of tree growing associated with "trees on farms" or "farmers in forests." Many development agencies, NGOs, farmer groups, and universities use the term "agroforestry" in this larger sense to refer to a wide range of farm forestry, social forestry, and natural forest management innovations that lie outside the scope of the narrow definition of agroforestry--but by no means outside the experience of land users in the tropics.

Thus, ICRAF researchers using the narrow definition would not consider a farm woodlot to be an agroforestry system (*sensu stricto*) because it is a separate land-use compartment on the farm and there is little direct ecological interaction with crop and animal subsystems. Others using the broader definition of "trees on farms" would definitely consider the woodlot to be part of the farm's agroforestry system, noting that it interacts systemically with other components of the management unit by drawing upon the same pool of land, labor, capital, and management resources.

The critical factor in making rational decisions on research responsibilities is whether the research is primarily concerned with the *tree component* of the system (forestry) or with the *interaction* between tree component and the agricultural crop and/or livestock components (agroforestry). ICRAF will in all likelihood maintain its focus on interaction research. It is up to foresters to deal with *trees and tree products* as such.

The User Perspective on the Role of Trees in Rural Development

Rural people care little about the boundaries of scientific specialization. What they care about is what trees and forests can contribute to meeting their needs through sustainable land management systems. The New Forestry must not fail to address the following concerns:

Multipurpose trees on farms

It is the MPTS focus that has given the MPTS Research Network scope to participate in that whole area of innovation associated with agroforestry (*sensu lato*). Under the banner of multipurpose trees, the choice of species for concentrated work has tended to be derived from an end-use, and ultimately a *user perspective*. From a socioeconomic point of view this represents a tremendous advance in our research planning approach over adherence to traditional disciplinary biases.

Farmers in forests: the invisible reality

Again from a socioeconomic point of view, the inclusion of natural forest management in the research mix with farm and community forestry makes it *easier* to come to grips with the user perspective. Both farms and forests are part of the resource base from which rural people obtain a livelihood. We will never understand their decisions about tree planting on farms until we see them in the context of their whole land-use strategy. Research to develop sustainable *multiple-user management systems* should include traditional forest inhabitants and farming communities in the vicinity of forests (both production forests and preservation forests, since farmers make use of both--despite policies to the contrary--and both badly need effective approaches to sustainable management).

The hidden economy of "minor" forest products

Farmers already manage natural forests for a variety of so-called minor forest products. Recent studies have shown this to be a misnomer (FAO 1991). In Taiwan, for example, the entire budget for the management of the country's forest estate is derived from the sale of non-timber forest products (H.H. Chung, personal communication). The focus of natural forest management should be on *forest resources* and *forest production* and not restrictively on timber resources and production. Indeed, from a socioeconomic point of view, it is the failure to acknowledge the legitimate role of these non-timber forest resources that has put conventional forestry at loggerheads with indigenous forest inhabitants and surrounding farming communities and prevented the development of rational multiple-user forest management plans. A realistic understanding of the role and potential of all forest resources and forest user groups is essential to a rational forest management policy.

Multipurpose food trees

The same point about forest management applies to tree species. The traditional timber bias has tended to prevent foresters from accepting their mandate to work on multipurpose food trees. The Network's own FVF research shows that such notorious "fruit trees" as mango, jackfruit, coconut and guava are in the farmer's view actually *multipurpose trees* whose food uses are sometimes secondary to their uses as timber or fodder. The people's mandate is clear. Farmers everywhere are asking forest nursery workers for fruit trees. Nor is it a subject that can be left to the horticulturalists alone, since they tend to focus on narrowly defined commercial uses of fruit trees and are generally unaware of the multipurpose way in which farmers use fruit trees. Moreover, the entire horticultural tradition is focused on intensive management systems, so horticulturalists know little about the *extensive management systems* that interest farmers and foresters. Forestry researchers should feel entitled to work on fruiting species if such species are used by rural people as multipurpose trees and if there is a compelling rural development rationale for the research.

Marketing, processing and utilization

While acknowledging its importance to the rural development process, ICRAF has made a definite and deliberate decision not to pursue research on the processing of tree products to increase income-earning opportunities. In fact, ICRAF has encouraged other institutions to take up the topic (ICRAF 1990:40-41). If we regard the trees themselves as central to the mandate of the MPTS Research Network, then we cannot afford to ignore post-harvest processing, marketing, and utilization--for these are the activities that create demand for tree-planting.

Recommendations:

That, in decisions regarding the Network's mandate, the Steering Committee:

1. Adopt a "multiple user perspective" to address the socioeconomic issues of all forestry-related land-use systems that have significant potential in rural development, and/or a significant interaction with local communities, including farm forestry, social forestry, agroforestry (*sensu lato*) and natural forest management near human communities (including protection and production forests).
2. Reinforce, in farm-based research, the Network's primary focus on the tree component of land-use systems, including multipurpose food trees under extensive management, as well as the tree component of agroforestry systems.
3. Expand the component focus in forest-based research to incorporate a significant secondary focus on non-timber forest products.
4. Transcend the traditional preoccupation with production systems to develop a "product focus" that gives due attention to marketing, processing, and utilization of tree and forest products, and that seeks to achieve conservation goals as a by-product of enlightened production interests.

References

- FAO. 1984. *Food and Fruit-Bearing Forest Species 2: Examples from Southeastern Asia*. FAO Forestry Paper 44/2. Rome: FAO.
- FAO. 1991. *The Major Significance of 'Minor' Forest Products*. Community Forestry Note 6. Forest, Trees and People Programme. Rome: FAO.
- ICRAF. 1990. *ICRAF Strategy to the Year 2000*. Nairobi: ICRAF.

Issues Paper No. 5

New Fellowship Program

Introduction

The graduate fellowship program started in phase I of the F/FRED project is nearing its completion. The fellows supported by the program are expected to complete their studies in mid-1992.

Many institutions in the MPTS Research Network have expressed the need for F/FRED to develop a new program at the graduate level so they can continue to strengthen their staff to conduct in-depth studies on aspects of MPTS production and utilization. Realizing that sending young scientists to the US for graduate work is very expensive, they have recommended that the new program should make use of Asian universities with strong programs in agriculture, forestry, agroforestry, and related sciences.

While the best Asian universities cannot compare with American universities in terms of the sophistication of teaching facilities, they have the advantage of being "on site" and faculty members are familiar with local problems and conditions. With the establishment of a multiple twinning arrangement among UPLB, UPM and KU, it is believed that a strong graduate program can be developed collaboratively to help MOU/LOA institutions accelerate their staff development programs. This new program will avail of the strengths of these twinned institutions to train network scientists for future MPTS research.

Name of the Program: MPTS Research Network Fellowship Program

Objective: To enhance the capability of Asian scientists to conduct in-depth research on the production and use of multipurpose tree species for the benefit of small-scale Asian farmers.

Program Description

The program will provide two-year fellowships to deserving scientists in the MPTS Research Network to pursue graduate studies leading to a master's degree at the University of the Philippines at Los Baños. Fields of study will be in disciplines related to MPTS production and utilization. The disciplines may be in the biological, physical, or social sciences, or in economics and marketing.

Programs of study include course work and thesis. Part of the course may be undertaken at another Asian university. The thesis may be conducted in UPLB, in the fellow's home institution or in another institution participating in the MPTS Research Network.

Arrangements have been made with UPLB for Network Secretariat staff and other qualified scientists in the Network, particularly from the institutions twinned with UPLB (KUFF and UPM) to serve as members of the fellows' guidance committees. In succeeding years, the program may allow fellows to study at Kasetsart University, Universiti Pertanian Malaysia or other institutions of higher learning in Asia with strong academic programs in forestry, agroforestry and related areas. This possibility is now being explored by the Network Secretariat.

Selection of Fellows

Fellows will be selected from candidates nominated by heads of institutions participating in the network. Selection will be based on the following criteria:

- o academic record
- o relevance of proposed field of study to network needs
- o proficiency in written and spoken English

Fellows will be selected by the Network Secretariat from a short list of candidates to be prepared by a screening committee composed of the Network Training Specialist, and a representative from each of the Network Steering and Research Committees.

Fellowship Budget

The fellowships will cover school fees, costs of international travel, and living and thesis expenses. They will also provide allowances for books and medical coverage. The budget in US\$ for each fellow is provided in the table below.

Item	1st Year	2nd Year	Total
School Fees	600.00	600.00	1200.00
Book Allowance	250.00	250.00	500.00
Living Allowance	3600.00	3600.00	7200.00
Non-Citizenship fee	1200.00	1200.00	2400.00
International travel	750.00	1500.00*	2250.00*
Thesis	**	**	**
	-----	-----	-----
Total	6400.00	7150.00	13550.00

*includes amount for travel of adviser to fellow's research site.

**to be supported through the project's small grants program

Number of Fellows

Initially, the program will support four fellows. More may be supported later, depending on the availability of donor funds.

Recommendation:

1. That the Steering Committee endorse the proposed new fellow-ship program.
2. That the Steering Committee suggest potential donors for the program.

Issues Paper No. 6

Network Support for NGOs with On-Farm Tree-Growing Programs

Background

In 1990, the Network's Steering and Research Committees suggested an outline for a workshop on the role of non-governmental organizations (NGOs) in MPTS promotion. The committees recommended the workshop be hosted by BAIF Development Research Foundation. To coordinate with an ODI-sponsored workshop on NGOs and Public Sector Agricultural Research/Extension in Hyderabad, the Pune workshop was scheduled for September 24-27, 1991. The Canadian International Development Research Centre (IDRC), the FAO Regional Wood Energy Development Programme in Asia, and the Nitrogen Fixing Tree Association (NFTA) co-sponsored the workshop.

The workshop set out to promote a dialogue among selected NGOs, research institutions, and relevant government programs in Asia. One important topic was improved collaboration in technology development and transfer. Case studies provided a focus for discussions on: (1) technology support for NGOs, (2) government policies needed to promote tree-growing by farmers, (3) NGO network and links with government programs, and (4) links between NGOs and other research and education institutions.

Workshop Summary

Twenty-nine NGO leaders, scientists, and government officials made presentations during the first two days of the workshop. Speakers presented case experience from India, Indonesia, the Philippines, Sri Lanka, Thailand, and international organizations such as FAO, CARE, and NFTA.

Speakers from both government programs and NGOs recognized NGOs' strengths and weaknesses. These were outlined at a workshop co-sponsored by FAO and World Resources Institute on Community Forestry and NGOs in June 1991 (see table).

Questions and discussion highlighted the variety of conditions under which NGOs in the region work. Participants agreed on the importance of people's participation, although there were different interpretations as to what that concept meant in different situations. The level of national coordination among NGOs also varies widely. In Thailand, NGO-CORD was established five years ago as a forum for grassroots NGOs; it has over 200 member NGOs and strong regional organization, as well as a national organizing office with information support and some advocacy functions. In the Philippines, the Uplands NGO Assistance Committee has identified areas of expertise among its members for technical backstopping, training, and the organization of seminars with government programs for policy clarification.

Recommendations from the group discussions were presented during the final session. Consolidated under three headings, major recommendations included:

Technical Support for NGOs

- o More research should be on-farm and farmer-codirected.
- o Mechanisms are needed for greater NGO-government collaboration in technology generation and transfer; these should be coordinated through independent bodies like UNAC in the Philippines and NGO-CORD in Thailand.

- o Greater opportunities for NGOs to build institutional technical capabilities are needed.
- o A clearinghouse or referral center should handle NGOs' requests for technical information (for example, BAIF's Information Research Center, the Philippines Upland Resource Center).
- o There should be a regional forum for sharing technologies between countries.

Government Policy and Cooperation

- o Governments should see NGOs as an important component in the decision-making process for policy formulation and program planning.
- o NGO desks should be established or strengthened in appropriate government agencies.
- o Independent national councils of NGOs should be created to represent the interests of NGOs in planning and reviewing government policy.
- o Governments should take policy measures to permit community-based development of government-owned wastelands and degraded lands with NGOs.
- o Similarly, governments should review existing legislation on land and tree tenure, and should take legal and administrative measures to promote tree-growing on private lands.
- o Government policies governing farmer credit with financial institutions and marketing structures for tree products should also encourage tree growing.
- o Government programs with NGOs should be flexible enough to adapt to different local conditions.

Networking Among NGOs and Linkage with Other Research and Education

- o NGO networking should be encouraged at the local, provincial, national, and international levels.
- o Generation of technology by NGOs should be emphasized, involving farmers as partners. Of course, farmers will make the final choice of technology adoption themselves.
- o Funding agencies should promote research projects with NGOs and provide funds in their budget for documentation of the process as well as technical findings.
- o NGOs should place more emphasis on the exchange of success and failure experiences for collective learning.
- o Links between NGOs and government and university research may be promoted through arrangement for graduate students to conduct thesis research in conjunction with an NGO, on a topic of interest to the NGO's program.

Follow-up Activities by the MPTS Research Network

Important follow-up to the workshop will take place at the national level, through greater contact between NGO participants and Network scientists. Coordinators of the national network meetings held

annually will be given a list of the workshop participants from their country and requested to ensure that these people receive invitations to the national meetings.

In addition, the Network Secretariat proposes several pilot activities following the workshop recommendations. Within its mandate for research and information exchange, the MPTS Research Network should consider options for sponsoring four types of activities:

Masters thesis research by students in network institutions conducted at an NGO project site, on a topic co-directed by the NGO. Initially, UPLB seems the institution best situated to serve this link, through its role in UNAC and its Agroforestry Program.

Making improved seeds from network-supported seed orchards in India, Indonesia, the Philippines, and Thailand available to farmers through NGOs in the respective countries. The Network Secretariat would link the research institutions managing the *Leucaena* seed orchards in these countries with appropriate NGO coordinating bodies. F/FRED might support seed collections, as well as visits by NGO leaders in-country to the orchards so they may see the parent materials from which the seeds would be coming.

Field day visits by farmers to on-station network experiments in those countries. The farmers would be invited to comment on needed adjustments for farm conditions. The field days may be used by organizing NGOs as an incentive (in-country travel) for their farmer-cooperators. The field days may be organized in conjunction with national network meetings.

Small grants for process documentation of near-complete or just completed NGO on-farm projects that involve either successful or failed linkages to national research programs. The Steering Committee is requested to provide ideas on ways of identifying the best candidate programs to be written up in this way.

Recommendation:

That the Steering Committee endorse the proposed follow-up activities by the Network, or suggest alternatives, ranking each according to priority.

Table. Key strengths and weaknesses of NGOs identified at an international workshop co-sponsored by FAO and WRI on Community Forestry and NGOs, June 1991.

Strengths	Weaknesses
1. Capable of playing a facilitating/brokering role between communities and government and research institutions.	1. Lack resources in terms of funds, human resources, and materials. Lack of financial sustainability.
2. Close links to communities and can obtain people's feedback.	2. Sometimes, a lack of coordination and technical expertise.
3. Flexible structure, with a minimum of bureaucracy. They are generally more accountable to local people than governments.	3. Some NGOs overstate their achievements; some follow fashionable causes without substantive involvement.
4. Some are capable of acting as advocates and watchdogs on matters of legal aid and the consequences of certain policies for local communities.	

Appendix 4: Participants

Steering Committee

Dr. Sures Bhumibhamon
Faculty of Forestry
Kasetsart University
Bangkhun, Bangkok 10903
Thailand

Prof. H.P.M. Gunasena
Dean, Faculty of Agriculture
University of Peradeniya
Peradeniya
Sri Lanka

Dr. Narayan G. Hegde
Vice President
BAIF Development Research
Foundation
'Kamdheni' Senapati Bapat Marg
Poona - 411 016
India

Dr. Salleh Mohd. Nor (chair)
Director General
Forest Research Institute Malaysia (FRIM)
Kepong, Selangor
52109 Kuala Lumpur
Malaysia

Dr. Kailash Pyakuryal
Department of Sociology and
Anthropology
Tribhuvan University
Kirtipur
P.O. Box 3635, Kathmandu
Nepal

Dr. Y.S. Rao
Regional Forestry Officer
FAO Regional Office
Maliwan Mansion
Phra Atit Road
Bangkok 10200
Thailand

Dr. Niwat Ruangpanit
Dean, Faculty of Forestry
Kasetsart University
Bangkhun, Bangkok 10903
Thailand

Observers

Dr. Nancy Diamond
Agroforestry/Social Forestry Advisor
American Association for the Advancement of
Science (AAAS) Fellow
R&D/EIR/RAD Office of A.I.D.
Room 608, SA-18
1601 N. Kent Street
Arlington, VA 22209
U.S.A.

Dr. Frances Korten
The Ford Foundation
M.C.C. P.O. Box 740
6th Floor, Dona Narcisa Bldg.
8751 Paseo De Roxas
Makati, Metro Manila
Philippines

Dr. Cherla B. Sastry
Senior Program Officer (Forestry)
IDRC
Tanglin P.O. Box 101
Singapore

Dr. Gloria Steele, Acting Division Chief
Bureau for Research & Development
Office of Economical and Institutional
Development
Resource Access & Development Division
(R&D/EIR/RAD)
A.I.D.
Room 608, SA-18
1601 N. Kent Street
Arlington, VA 22209
U.S.A.

Dr. Sarah Tisch
Winrock International
P.O. Box 12736
Ortigas Center
Strata 100, 11th Floor
Emerald Avenue
1600 Pasig, Metro Manila
Philippines

F/FRED Project Staff

A.I.D.

Dr. Ian Morison
F/FRED Project Officer
Bureau for Research & Development
Forestry and Natural Resources Division
A.I.D.
5th Floor
1601 N. Kent Street
Arlington, VA 22209
U.S.A.

Project Management Office

Mr. Thomas C. Niblock
F/FRED Project Manager
Winrock International
1611 N. Kent St., Suite 600
Arlington, VA 22209

Dr. Foster B. Cady
Director, F/FRED Global Research Systems Staff
Winrock International

Dr. John Cool
Senior Social Scientist
Winrock International

Network Secretariat

Dr. Rick Van Den Beldt
Field Team Leader
Winrock International - F/FRED
P.O. Box 1038
Kasetsart Post Office
Bangkhen, Bangkok 10903
Thailand

Dr. John B. Raintree
Network Social Scientist
Winrock International

Dr. Celso B. Lantican
Training Specialist
Winrock International

Dr. Kamis Awang
Network Specialist
Winrock International

Mr. David A. Taylor
Information Specialist
Winrock International