



# Regional workshop on agroforestry education in Southeast Asia

23–27 March 1998,  
University of the Philippines, Los Baños

Per G Rudebjer, Romulo A del Castillo, Chun K Lai  
and Bruno Verbist

INTERNATIONAL CENTRE FOR RESEARCH IN AGROFORESTRY

Published in 1998

The Southeast Asia Initiative for Agroforestry Education is supported by the Swedish International Development Cooperation Agency (Sida).

*Correct citation:*

Rudebjer P, del Castillo R A, Lai C K and Verbist B. 1998.  
Regional Workshop on agroforestry education in  
Southeast Asia, 23–27 March 1998, University of the  
Philippines Los Baños, Laguna, the Philippines. Training  
and Education Report No. 43. Bogor: ICRAF.

Published by:

International Centre for Research in Agroforestry  
Southeast Asia Regional Research Programme  
PO Box 161, Bogor 16001, Indonesia

Layout by: Tikah Atikah

# Regional workshop on agroforestry education in Southeast Asia

23–27 March 1998,  
University of the Philippines Los Baños  
Laguna, the Philippines

Per G Rudebjer, Romulo A del Castillo, Chun K Lai  
and Bruno Verbist

Training and Education Report No. 43

1998



**UPLB/ICRAF/Sida**  
**Regional Workshop on Agroforestry Education in Southeast Asia**  
CEC, UP Los Baños, College, Laguna, Philippines  
March 23-27, 1998

# Contents

Preface	1
Acknowledgement	2
Summary	3
<b>Opening ceremony</b>	<b>6</b>
Welcome remarks	6
Opening remarks	7
Towards a Southeast Asian Network for Agroforestry Education (SEANAFE)	9
The Southeast Asia Initiative for Agroforestry Education	10
Message of the Chancellor, UPLB	11
<b>Session 1. Setting the stage</b>	<b>12</b>
Expectation setting	12
ICRAF Southeast Asia Regional Research Programme	12
ICRAF's global training programme	14
African Network for Agroforestry Education (ANAFE)	15
<b>Session 2. Examples of agroforestry education in Southeast Asia</b>	<b>17</b>
Institutional presentations	17
Observations and emerging issues	19
<b>Session 3. Agroforestry education and training at the national level</b>	<b>20</b>
Indonesia	20
Lao PDR	20
The Philippines	21
Thailand	21
Vietnam	22
<b>Session 4. Regional issues and priorities — towards a regional agenda for action</b>	<b>23</b>
Overview—regional organizations and projects	23
Results of group work on regional issues and priorities	27
<b>Session 5. Action plans for country studies</b>	<b>32</b>
Education fellows	32
Country studies	32
<b>Session 6. Putting it all together</b>	<b>34</b>
Evaluation	35
<b>Appendix 1. Checklist of concerns—guidelines for institutional reports</b>	<b>36</b>
<b>Appendix 2. Summary of institutional presentations</b>	<b>38</b>
Indonesia	38
Lao PDR	40
The Philippines	42
Thailand	44
Vietnam	46
<b>Appendix 3. Agroforestry education and training at the national level</b>	<b>49</b>
Indonesia	49
Lao PDR	51
The Philippines	52
Thailand	55
Vietnam	57
<b>Appendix 4. List of participants</b>	<b>59</b>
<b>Appendix 5. Workshop programme</b>	<b>63</b>



## Preface

It is imperative that we bring down the walls between different fields in the natural resource sciences, as the challenges to sustainability increase in Southeast Asia. Only an interdisciplinary approach can address the complex problems associated with livelihoods and environment in the uplands. This approach is gaining ground in research and extension, in education and in training.

Educational institutions play a leading role in developing interdisciplinary approaches to natural resources management, with their three-fold mandate of education, research and extension. Universities and colleges in Asia have, to varying degrees, started to teach agroforestry. In the Philippines it started as early as 1976. Agroforestry education is now growing rapidly throughout the region. But agroforestry is still a new field and has a long way to go to reach maturity. Most aspects need attention, from curriculum development to teaching methods and institutional capacity. But, importantly, there are resourceful institutions and individuals devoted to strengthening agroforestry education programmes through various mechanisms.

One of these mechanisms is the Southeast Asia Initiative for Agroforestry Education — a needs-assessment initiative supported during 1998 by the Swedish International Development Cooperation Agency (Sida) and coordinated by the International Centre for Research in Agroforestry in collaboration with the Institute for Agroforestry at University of the Philippines Los Baños (UPLB).

These are the proceedings from a Regional Workshop on Agroforestry Education held under Southeast Asia Initiative for Agroforestry Education at UPLB on 23–27 March 1998. Some 20 institutions from five countries of Southeast Asia participated. In the proceedings they report what has been done and what the needs are, and point out the way forward to strengthen agroforestry education in the region.

One of the main recommendations is to establish a regional network for agroforestry education as a vehicle for facilitating interaction among the different sectors in natural resource education, research and extension in Southeast Asia. This network is now taking shape through the efforts of these dedicated people.

Dennis Garrity  
Coordinator  
Southeast Asia Regional Research Programme

## Acknowledgement

Many people representing various organizations have contributed to the production of this proceedings and helped organize the regional workshop whose outcomes are presented here. It would not be feasible to mention them all by name. But two teams deserve our particular recognition: the staff of the Institute for Agroforestry of the University of the Philippines Los Baños and the ICRAF-Philippines office in Los Baños for an excellent job in planning for and organizing the workshop. The support staff of ICRAF-Indonesia smoothly handled the many complicated logistic and financial matters. We would also like to express our thanks to all other contributors, in particular the participating institutions.

Per G Rudebjer  
Romulo A del Castillo  
Chun K Lai  
Bruno Verbist



## Summary

Academic institutions in forestry, agriculture and other natural resource sciences increasingly teach agroforestry. This is a response to the growing need for trained human resources for sustainable development of the uplands of Southeast Asia. This incorporation of agroforestry into educational programmes started more than 20 years ago, and is still going on. A number of regional meetings and initiatives in Southeast Asia have taken place to catalyse the process, among them a *Roundtable discussion on agroforestry education in Southeast Asia* organized by the International Centre for Research in Agroforestry (ICRAF) and Asia Pacific Agroforestry Network (APAN) in November 1994. At this meeting, six universities in Indonesia, the Philippines and Thailand developed a proposal for regional collaboration on agroforestry education. This proposal was further expanded in 1997 to include a larger geographical area and a wider range of institutions. The project, the Southeast Asia Initiative for Agroforestry Education, was implemented during 1998.

This report presents the outcome of the Regional Workshop on Agroforestry Education in Southeast Asia, held at the University of the Philippines, Los Baños (UPLB) on 23–27 March 1998. The workshop was organized jointly by ICRAF and UPLB Agroforestry Programme, as part of the Southeast Asia Initiative for Agroforestry Education. This initiative, funded by the Swedish International Development Cooperation Agency (Sida), aims at assessing the status of tertiary agroforestry education in Indonesia, Lao PDR, the Philippines, Thailand and Vietnam, and the need to further strengthen such education.

The regional workshop was an important step in this process, since it enabled representatives from some 20 key educational institutions in the region to jointly:

- present and assess the status of agroforestry education in selected institutions
- identify needs and issues related to the teaching of agroforestry in the five countries
- make preliminary recommendations for regional collaboration, in order to enhance tertiary agroforestry education in the region
- plan a more detailed collection of baseline data on agroforestry education and training through studies in each of the five countries.

The institutional presentations and the discussions during the workshop showed that the status of agroforestry education differs considerably among the five countries, the Philippines having the most developed agroforestry programmes. Very briefly, the national situations can be summarized as follows:

### Indonesia

- At BSc level, agroforestry is not a recognized study programme; it appears only as elective courses — there is a need for curriculum development and policy change
- Teaching staff is of relevant quality in traditional disciplines, but not in agroforestry, and is unevenly distributed among institutions
- Availability and maintenance of physical facilities is an issue
- ‘Agroforester’ is a new job, not widely known to the public
- There is a need for structured research in agroforestry — this is now hampered by both lack of opportunities and by complex bureaucratic procedures
- There are opportunities to strengthen existing collaboration among institutions.

## **Lao PDR**

- Currently, there is no MSc education in agroforestry in Lao PDR, but the subject is taught in BSc programmes and in non-formal training
- There is a great need for more and better trained agroforestry teachers
- English language skills are weak, which limits the access to foreign literature and information
- Physical facilities need attention; particularly libraries
- Students are weak in basic sciences
- There is a lack of developed research programmes.

## **The Philippines**

- Twenty-four schools teach agroforestry at different levels, including five different BS programmes in agroforestry, a post-secondary diploma, a post-baccalaureate diploma and MS agroforestry programmes
- Curricula need modernizing
- There is an inadequate number of agroforestry teachers
- Access to demonstration areas and to sites for practical studies is not satisfactory
- Students have a tendency to be attracted to new education programmes
- Self-employment for agroforesters is important, while career paths in government agencies are still a constraint
- Funding for research is limited
- The existing informal national network of agroforestry education institutions in the Philippines could be formalized.

## **Thailand**

- Agroforestry is offered in various programmes, such as social forestry, forest resource management, soil science and earth science. But bureaucracy is a constraint to curriculum development.
- There is inadequate coordination among teaching staff of agroforestry courses
- There is a need for demonstration plots, and for improved libraries
- Graduates may not find jobs in the field of agroforestry
- There is a need for a participatory approach in training
- Most research is component-oriented. Only some is interdisciplinary
- The Council of Deans in Agriculture and Environmental Sciences is a good channel for curriculum development.

## **Vietnam**

- There is an urgent need for agroforestry and community forestry, and a corresponding need for improving agroforestry curricula
- Teachers lack a background in social sciences including tools for rural development
- Facilities for teaching and research are in short supply
- The quality of students is decreasing; other areas of study are more attractive. There is a need to encourage young rural people to study agroforestry, with priority given to ethnic minorities.
- Refresher courses for ex-students are needed
- More job opportunities for agroforestry graduates are desired
- Many interesting topics need to be researched, for instance land-use systems for allocated lands, or community-based development in the uplands

- The desire for institutional links is great, but possibilities are limited by distance, and by lack of infrastructure or funds.

## **Regional issues and opportunities**

The workshop participants analysed the national situations described above, and agreed on a number of regional issues and opportunities for collaboration on agroforestry education. This discussion revealed the following picture:

*Agroforestry curricula:* There is a concern about minimum standards (quality) of agroforestry curricula, and a curriculum guide is desired. Guidelines for integrating agroforestry in forestry and agriculture courses would also be useful.

*Teaching staff:* Training of agroforestry teachers is an important opportunity for regional collaboration, for instance through staff exchange programmes, or joint staff training. However, language skills among teachers may be an obstacle to collaboration.

*Teaching facilities:* There is a great demand for teaching materials on agroforestry—materials that need to be purchased, developed, exchanged or translated. The Internet is now also a channel for information exchange. Further, there is a demand for sharing or developing case studies, and for demonstration sites.

*Students and graduates:* This is an area where regional collaboration could make a difference, for example through student exchange, thesis research grants in agroforestry, sharing of information on job opportunities regionally, and marketing of agroforestry graduates.

*Research:* Collaboration would strengthen agroforestry research, e.g. sharing research capacity across universities, sharing information on agroforestry research methods, and joint identification of funding sources for research.

*Extension:* Since many universities also have an extension mandate, extension can help provide agroforestry specialists in training programmes. A regional mechanism could also help exchange of extension materials, assisting in publication of case studies, manuals etc.

*Policy:* There is a need to promote agroforestry as a profession, and to influence policy makers involved in curriculum development. One way of doing so is to arrange meetings and workshops with policy makers.

*Institutional links:* A regional agroforestry education network in Southeast Asia would be useful in optimizing available resources. It would link existing local, national and regional networks.

Finally, the participants agreed to endorse the continued work towards the establishment of a prospective Southeast Asia Network for Agroforestry Education (SEANAFE). The next step in this process is detailed country studies on agroforestry education and training in Indonesia, Laos, the Philippines, Thailand and Vietnam, conducted by five ICRAF-appointed Education Fellows during April–July 1998; followed by a meeting in Bogor, Indonesia, 4–7 August 1998, to analyse the results and develop a strategy for enhancing agroforestry education in Southeast Asia.

# Opening ceremony

## Welcome remarks

*Lucrecio L Rebugio, Dean, College of Forestry*

**O**n behalf of the faculty and staff of the UPLB College of Forestry, I would like to welcome you all, participants and guests, to the Regional Workshop on Agroforestry Education in Southeast Asia. I can see old friends around, so to me this occasion is a good opportunity to renew friendships. It is also a golden opportunity to establish new ones, especially with those whom I will be meeting for the first time during this gathering.

For those of you who are here in UP Los Baños for the first time, let me introduce to you briefly our College and the University. Established in 1910 as a department of the College of Agriculture, our College of Forestry is one of the eight colleges presently comprising the University of the Philippines Los Baños. In terms of student population and the size of the faculty, it is one of the biggest. The other colleges of UPLB are the colleges of Agriculture, Arts and Sciences, Economics and Management, Engineering and Agroindustrial Technology, Human Ecology, Public Affairs, and Veterinary Science. Altogether, the student population of UPLB is more than 8000, and there are about 600 faculty members.

The College of Forestry has five department: Forest Biological Sciences, Forest Resources Management, Silviculture and Forest Influences, Social Forestry, and Wood Science and Technology; two centre: the Forestry Development Centre and a Policy Studies Centre; and the Institute of Forest Conservation, a nature conservation and continuing forestry education centre and two programmes, the Agroforestry Programme and Environmental Forestry Program.

We offer two baccalaureate degrees, the BS Forestry with four areas of specialization, including silviculture and agroforestry, and the Bachelor in Forest Products Engineering. We also offer Masters and doctoral programmes in forestry with specialization in almost all areas. In addition to these postgraduate programmes, a one-year Diploma in Agroforestry will be jointly offered with the College of Agriculture and the College of Economics and Management, starting next school year. We have another programme, the Certificate in Forestry, a course designed to train technically and socially competent forestry technicians.

To prepare the college to meet the challenges of forestry education in the next century, we are reorganizing, and in fact we are almost there. One significant aspect of this reorganization is the elevation of the Agroforestry Program into an Institute of Agroforestry. This is clearly a recognition of the importance of agroforestry education, research, training and development in responding to the challenges of sustainable forestry and environmental conservation in the 21st century.

It is in this light that we are very appreciative of the initiative — undertaken by the International Centre for Research in Agroforestry, with the active support of our College, through our Agroforestry Program — in bringing together more than 20 representatives of leading forestry and agriculture institutions of higher learning from Indonesia, the Philippines, Thailand, Vietnam, and Lao PDR to prepare the groundwork for a workable

regional network for agroforestry education. Such a network would have a practical value of serving as an effective mechanism for information and learning exchange among its members. Hopefully, this could redound to the formulation and design of more relevant and responsive agroforestry education programmes in the region. More than this practical importance however, is the symbolic value of the network. A strong and effective agroforestry education network symbolizes a more innovative approach to dealing with formidable problems. It signals clearly that agriculture and forestry professionals can transcend artificial disciplinary barriers, into meaningful partnership and cooperation to address common problems. This could result in sustainable development of both natural resources and human communities.

## Opening remarks

*Glenn Denning, Director, Development Division, ICRAF*

My first duty is to express my appreciation to the organizers of the workshop for kindly inviting me to say a few words in my capacity as incoming Director of Development at ICRAF. As some of you know, I will be joining ICRAF on 1 May. Until then, I am required to remain firmly focused on rice; but, just the same, I appreciate very much the opportunity to be with you for the start of this important workshop — a workshop that we hope will set a firm foundation for this exciting new partnership in agroforestry education for Southeast Asia.

In the few minutes I have this morning, I want to address two important questions: First: Why has ICRAF decided to establish what it calls a 'Development Division'? Second: What exactly is ICRAF's vision with respect to development?

On the first question, why a 'Development Division'? Why has ICRAF, one of the CGIAR research centres, suddenly become interested in development? First, ICRAF's concern for development is not at all new; indeed, in the early days of ICRAF, there was quite some concern that the centre was too development-oriented. When ICRAF joined the Consultative Group on International Agriculture Research (CGIAR) in 1991, there was a greater emphasis placed on strategic research, while training and information dissemination continued. And indeed, these constitute important building blocks in constructing a Development Division — the first in the CGIAR system.

ICRAF's vision has a clear, unambiguous development flavour. It is: 'to contribute to improving human welfare and environmental resilience through improved agroforestry systems'. These are development goals — improving human welfare and ensuring greater environmental resilience.

One option for ICRAF would have been to say: we will focus on agroforestry research and pass on our knowledge to others through training and publications. But, we have decided, in consultation with many stakeholders, and with the strong approval of our donors in the CGIAR, to be more proactive in making this vision a reality.

ICRAF and its research, education and training partners will ultimately be held accountable for generating impact through agroforestry technology and knowledge. Our stakeholders, representing perhaps a quarter of the world's population, are demanding impact in the areas of poverty reduction, food security, and environmental protection. And there is a sense of urgency: they want it now, not just by the year 2020.

ICRAF and its partners have a moral and political responsibility to deliver on the promise of agroforestry — at the farm, village, watershed, national, regional, and even global levels. We have no choice. And that is why ICRAF became the first CGIAR centre to establish a development division, and I am certain it will not be the last to do so.

The second question that I said I would address, though not necessarily answer to your complete satisfaction at this early stage is: what actually constitutes ICRAF's vision in agroforestry development?

I have to be honest and tell you that this is very much 'work in progress'. ICRAF's development vision is evolving with the help of many stakeholders — and I hope that this workshop will help us in formulating elements of that vision. Ultimately, I want the vision to be shared by you as well as my ICRAF colleagues. For that to happen, you all need to contribute.

Let me present six points that illustrate my current thinking on how that development vision and corresponding strategy would appear. And for ease of recollection, I have framed my points around six words beginning with the letter 'P'.

1. **PEOPLE-CENTRED**, rather than technology-centred or technology-driven. I believe that impact could be hastened by empowering people to make better choices about their land and their trees. This is where educational institutions can play a crucial, seminal role. Education and training — human capital development — will remain a centrepiece of ICRAF's Development Division.
2. **PROCESS-ORIENTED**: We need to understand the processes by which people acquire and share knowledge. Why do farmers accept or reject a technique? How do we move from successful village-level pilot projects and case studies to regional, national, and global scales of adoption and impact? Understanding these processes, as they apply to agroforestry, will be a central function of ICRAF's Development Division.
3. **PARTNERSHIP-RELIANT**: ICRAF's development vision will only be achieved through partnership with stakeholders at many levels. Strategic involvement with farming communities through participatory research and development methods provides a sound basis for effective dissemination of agroforestry innovations. But we also need all kinds of traditional and non-traditional partnerships: public and private; local, national, regional and international; organizations with different skills and contributions — in finance, infrastructure, community development, etc. The Development Division will help craft creative alliances that maximize leverage and synergy.
4. **POVERTY-FOCUSED**: Perhaps 1.2 billion people or 24% of people, both rural and urban, in the developing world depend on agroforestry products and services for their livelihood. This statistic illustrates the enormous potential of agroforestry to actually raise incomes and help reduce poverty. The Development Division will measure its impact and its success principally through the effects on poverty reduction.
5. **POLICY-SUPPORTED**: The adoption of many agroforestry options is hastened or hindered by the policies in place. The Development Division will draw on policy research of ICRAF and other organizations to advocate policy changes that encourage the sustainable adoption of agroforestry innovations.

6. PROACTIVE: above all, do something! The agroforestry community cannot afford to sit back and wait to be invited to participate in development. We have to be proactive; we have to anticipate problems and opportunities. The Development Division of ICRAF will play a proactive role in seeking new opportunities to generate impact through the science and practice of agroforestry.

## Towards a Southeast Asian Network for Agroforestry Education (SEANAFE)

*Romulo A del Castillo, Director, UPLB Agroforestry programme*

### Background

Until the 1970s, neither the agents of development nor academia were paying much attention to agroforestry. However, when governments in the region adopted people-oriented approaches to the management of upland resources, the picture changed. Agroforestry became recognized as an alternative land-use system for combating the twin problems of upland poverty and environmental degradation. It was also during the 1970s when academic institutions began to respond to the growing need for trained human resources for sustainable development of the uplands of Southeast Asia.

Early initiatives in curriculum development in the region included:

- integration of concepts and principles in the teaching of selected subjects in agriculture and forestry
- development of special integrative courses such as an introduction to agroforestry, fundamentals of agroforestry, socioeconomics of agroforestry, and agroforestry management practice
- two-year technical level agroforestry courses
- baccalaureate degree courses.

### **Growing number of schools offering formal agroforestry curricula**

The interest in agroforestry education and training continued in many countries in the region. In the Philippines, for example, the number of schools offering formal agroforestry curricula has increased remarkably in the past two decades. The Philippine Agroforestry Education Needs Assessment (PHILAFENA), undertaken in coordination with the Technical Panel for Agricultural Education (TPAE) showed that, during the period from 1976 to 1995, the number of schools teaching agroforestry increased from one to more than 20 colleges and universities.

The PHILAFENA study also showed that formal education in agroforestry is now available at three levels, namely: technical level (2 years), baccalaureate level (4 years), and graduate level (1–2 years).

Technical level education is available in five schools, baccalaureate degrees in 26 colleges, and graduate level education at three universities. It may also be noted that agroforestry in the baccalaureate level education is available in five forms, namely: BS Agroforestry, BSA major in Agroforestry, BSF major in Agroforestry, Bachelor of Agroforestry Technology, and Bachelor of Agroforestry Entrepreneurship.

In the Philippines, both enrolment and graduation are rising. Based on data from 11 universities and colleges, enrolments have more than doubled during the last five years.

## Recent initiatives and developments in the region

- National multisectoral workshop on developing agroforestry curricula — UPLB, November 1992
- Regional expert consultation on developing curricula for agroforestry community forestry in Asia — Asia-Pacific Agroforestry Network (APAN) and Chiang Mai University, June 1993
- Roundtable discussion on agroforestry education in SE Asia — ICRAF/APAN, November 1994
- Proposal for inter-university programme to Strengthen Agroforestry Education in Southeast Asia (PROSAFESA) — ICRAF/UPLB/APAN, 1995
- Country initiatives:
  - Philippine Agroforestry Education Needs Assessment (PHILAFENA) — identification and profiling of agroforestry schools, and assessment of the state of agroforestry education; UPLB Agroforestry Programme (UAP) and TPAE, 1995–1996
  - Philippine Agroforestry Education and Research Network (PAFERN) — facilitating mechanisms for communication exchange to enhance agroforestry education development, 1996
  - Agroforestry Support Programme for Empowering Communities Towards Self-reliance (ASPECTS) — a model for strengthening the academic programme of collaborating schools by enabling them to work in facilitating community empowerment, 1997.

## The Southeast Asia Initiative for Agroforestry Education

*Per Rudebjer, Project Leader, ICRAF*

The Swedish International Development Cooperation Agency (Sida) decided in 1997 to support an initial study on agroforestry education in the region — the 'Southeast Asia Initiative for Agroforestry Education'. A work plan for this initiative was developed and discussed in ICRAF's Regional Agroforestry Planning Meeting held in Bogor, Indonesia on August 22–29, 1997. The strategy includes the following activities:

1. *Country visits* to identify education and training institutions and appraise development issues, that took place in January 1998.
2. This *Regional Workshop on Agroforestry Education*, 23–27 March, 1998, to share national experiences in agroforestry education and training; to set the stage for long-term regional collaboration and secure institutional commitment; and to provide guidance for and harmonize the work of country fellows.
3. *Country level state and needs assessment*, to be carried out during April–June 1998: to describe institutions engaged in agroforestry education and training in each participating country; and to identify and prioritize needs for accelerating agroforestry and training development at the country level.
4. *Regional overview of agroforestry education and training*, to identify and describe regional organizations active in education and training; and to develop a regional outlook of developments in agroforestry.
5. *Country fellows workshop* in August 1998, to analyse and synthesize the status and needs for agroforestry education and training in Indonesia, Lao PDR, the Philippines, Thailand and Vietnam; and to develop a strategy to address emerging needs and issues through regional collaboration



6. *Writing and proposal preparation* to write a status report on agroforestry education and training in Southeast Asia, and a project proposal for a prospective Southeast Asian Network for Agroforestry Education (SEANAFE).

The organizers of this workshop hope that we can work productively together to pave the way for the establishment of a functional regional network. More than ever, we are convinced that a collective, facilitating mechanism for enhancing agroforestry education and training institutions in the region is much needed.

## Message of the Chancellor, UPLB

*Ruben L. Villareal, Chancellor, UPLB (Read by Dr. Senen M. Miranda, Vice Chancellor for Planning and Development)*

This week-long Regional workshop on agroforestry education in Southeast Asia marks another milestone in our quest to carve a niche for agroforestry. Actually, agroforestry has really come a long way. With the global adoption of agroforestry as a land-use management system that attempts to link agriculture with long-term protective, productive and social functions of our forests, the need for more and more professionals trained in this field has never been more obvious. Thus, there is a need for established curricula in agroforestry in leading academic institutions.

The University of the Philippines Los Baños has contributed significantly in providing the impetus for agroforestry education in the country. We were able to have our Diploma in Agroforestry approved and offered, and agroforestry has been likewise integrated in our University's revised BS Forestry curriculum. What we are after here, and I am sure you all have this same goal, is to train and produce a cadre of well-grounded and highly motivated development workers — development workers who can facilitate the promotion of agroforestry in community-based and people-centred forestry projects. This focus on agroforestry development and management requires emphasis on knowledge acquisition, skills development and environmental value formation.

The attempt to establish our own network in agroforestry education in Southeast Asia could not have come at a more opportune time. We are entering a new millennium and our institutions want to establish their legacy for the future — each in our own way. We in UPLB have prided ourselves that for 89 years we have been dedicated to excellence in agricultural education and research, and we will continue to pursue excellence along this line for the benefit of the Filipino people.

As we join hands for this agroforestry education network, let us also do so to establish a legacy for the future. Let us use agroforestry as our legacy for future generations. Its interdisciplinary nature enables us to promote conservation of resources and sustainability of food production and development.

The environmental problems we have in the world will not be remedied overnight. The approach is always for long-term consideration. However, with all of us contributing more than our fair share to this endeavour, there is no reason why we should fail.

# Session 1. Setting the stage

## Expectation setting

*Chun K. Lai, Visiting Scientist, ICRAF*

**I**n the first session, participants were invited to write their expectations for the workshop on cards. The following summarizes what the group hoped to get out of the workshop:

- develop friendships and mutual support
- develop contacts and partnership for future collaboration
- understand strengths, needs and gaps in agroforestry education and training
- share experiences of agroforestry training and education
- obtain information on agroforestry programmes in Southeast Asia
- obtain relevant publications
- develop an inventory of institutional profiles
- collaborate on agroforestry curriculum development
- formulate guidelines for agroforestry courses
- develop regional standards for agroforestry education
- explore how to link agroforestry research with educational institutions
- learn more about how agroforestry is taught at universities
- establish a sustainable network
- define a vision, mission, objectives and strategies for a future SEANAFE, including budgetary requirements.

## ICRAF Southeast Asia Regional Research Programme

*Dr Dennis Garrity, Regional Coordinator, ICRAF*

Chancellor Villareal; Dean Rebugio; distinguished workshop participants, at mga Kaibigan, Magandang Umaga sa inyong lahat.

I am very happy to be invited to join you at this Regional Agroforestry Education Workshop. I am delighted to see such a high-powered group of educators from the region gracing this meeting.

ICRAF is a strong supporter of efforts to strengthen agroforestry education all around the world. In fact, one of our key global programmes is on agroforestry education. It is very unusual for an international agricultural research centre to have an explicit programme to work on university-level issues of curricula and course materials for tertiary education. The other centres, such as the International Rice Research Institute (IRRI) or the International Centre for Research in the Semiarid Tropics (ICRISAT), do not have such a program. Why does ICRAF feel that support for agroforestry education is so important?

Agroforestry is a unique integrative field of study that spans the gap between agriculture and forestry. Integrative fields of study like ecology, environmental science, and others don't fall nicely into the academic boxes that universities so dearly cling to. With one leg in agriculture and the other in forestry, the science of agroforestry is like a dancer doing the splits across a canyon between two great mountains of forestry and agriculture. Thus, it is

not easy being a university instructor or professor in agroforestry. You are caught in the middle, which is where you want to be, but doing the splits is not a comfortable posture!

There are many models of how universities and colleges may go about fitting agroforestry into their own programmes of study. The Philippines has a rich variety of experiments among its many institutions of higher learning in how agroforestry is handled as a programme of study. This rich experience is worthy of analysis to squeeze out the key lessons to be shared.

This issue of sharing experiences brings us to the heart of a new regional initiative — the Southeast Asia Initiative on Agroforestry Education. This workshop will make important contributions to that initiative. It is part of the process of national and regional evaluations of where things are in agroforestry education and what needs to be done to continue its full development.

Agroforestry education is changing fast; so is the field of agroforestry itself. Years ago, agroforestry was merely seen as a set of practices — the combining of trees and crops on the same field in myriad ways. Today we realize that agroforestry is much more than that. It is manifested at the landscape level as a natural resource management system in which trees are integrated into agricultural systems to provide economic and ecological benefits.

This concept emphasizes agroforestry not only as what a farmer does on his or her own land, but as the rich mosaic of land uses that evolves over whole watersheds as many farmers pursue these objectives. Before I make this sound too remote and academic I should acknowledge a very straightforward definition of agroforestry: simply 'trees on farms'. Perhaps that is the best one of all. We believe farmers are the foresters of the future in Asia.

ICRAF changed its name six years ago. Did you notice? It was founded as the International *Council* for Agroforestry Research, and its purpose was to promote the concept's information, and methods for the study of agroforestry. In 1992, however, it transformed itself from a council to a research centre — and is now the International Centre for Research in Agroforestry. The major change was that it now saw its role as doing agroforestry research with national partners and developing agroforestry into a full-scale science.

Now, as we celebrate our 20th anniversary, we feel that this objective has been achieved, and agroforestry is now recognized as a science in its own right, still a 'baby' of a science but definitely a force to be reckoned with. This sense of agroforestry as a science is something that needs to be instilled in the young professionals who are studying it and thinking about their career in a recognized and credible field of endeavour.

We in the ICRAF Southeast Asia Regional Research Programme are aiming to help make this possible as rapidly as we can. We do so by linking agroforestry education in institutions everywhere with the best and newest and most pioneering concepts, methods and outputs from around the world and from our own work. Based in Bogor, Indonesia, we have some 25 professional staff in Indonesia, as well as several here in the Philippines and in Thailand. We foresee growth in the coming years as interest in agroforestry solutions to the problems of production and environment conservation continues to grow.

We are working on a wide range of agroforestry issues, among them:

- policy initiatives to build the enabling environment for smallholders
- alternatives to unsustainable 'slash-and-burn' systems

- agroforestry to rehabilitate degraded watersheds
- domestication of agroforestry trees
- a new generation of contour hedgerow systems: 'simple SALT' (sloping land agricultural technology) based on natural vegetative strips
- evolution of grassroots farmers' organizational approaches to spread conservation farming techniques rapidly and efficiently (the Landcare approach)
- natural resource management planning processes at the local level
- buffer zone management through agroforestry.

These big issues are the kind that capture the imagination of ambitious students who are looking for ways to devote themselves to solving some serious problems while they can also make a living. Issues that can help inspire the agroforestry education programmes and give students the sense that they are involved in a great enterprise that will make a difference in conserving natural resources, alleviating poverty and making the world a better place.

## ICRAF's global training programme

*Bruno Verbist, Associate Scientist, ICRAF*

ICRAF's Capacity and Institutional Strengthening Programme focuses on five areas:

- group training in agroforestry
- individual training
- production of agroforestry training materials
- strengthening agroforestry in tertiary education
- information for agroforestry research and development.

One important project under this programme is the Dutch-funded 'Strengthening Training and Education in Agroforestry' — a DSO/ICRAF project running from 1997 to 2002. The project supports training and education in agroforestry in developing countries globally. Its objectives are institution strengthening, providing training opportunities, and strengthening professional organizations. The project follows the guiding principles of Dutch cooperation: poverty alleviation, gender, environment, and sustainability. ICRAF has cooperated with DSO in agroforestry training since 1989.

The DSO/ICRAF project addresses several of the main areas for capacity and institutional strengthening within ICRAF. The overall project goal is 'to contribute to sustainable and environmentally sound agroforestry-based agricultural production systems in tropical countries through capacity building and strengthening of regional and national institutions in agroforestry research, education, training and extension'.

Specifically, the project objectives are to:

- transfer introductory agroforestry training to national and regional institutions
- help these institutions to do this
- strengthen agroforestry training materials development
- ensure sustainability of training and teaching materials development at these institutions.

Although the DSO/ICRAF project 1997–2002 is global, it is based on regionally-specific activities. For the Southeast Asia region the following activities are planned:

- *Needs assessment* (April–July 1998), in close collaboration with the Southeast Asia Initiative for Agroforestry Education. Important aspects were to identify potential

partners, to inventory institutions, resource persons, institutional infrastructure, and to prioritize needs.

- *Regional planning and coordination workshop* (August 1998). By bringing key trainers and resource persons together, this activity aimed at planning and preparing a training of trainers course in accordance with needs; allocating 'small grants' and a training materials production unit; and developing a long-term vision.
- *Small grants scheme*. This is strategic support for projects or activities that can boost agroforestry training in institutions in the region (two or three grants are available).
- *Training material production*. This activity deals both with the production of training materials for the course and, more importantly, with the long-term production capacity of training materials for agroforestry, through regional training materials production units.
- *Training of trainers course* (March 1999). This regional course (two to three weeks, tentatively in Thailand) will update the agroforestry knowledge and skills of key trainers in Southeast Asia, thereby contributing to the devolution of basic agroforestry training to national institutions.

These regional activities will be followed up with international refresher courses, where more specific topics will be addressed.

## African Network for Agroforestry Education (ANAFE)

*Per Rudebjer, Project Leader, ICRAF*

### Networking experiences from Africa

African Network for Agroforestry Education (ANAFE) was established in 1993, responding to the needs among African universities and colleges to strengthen agroforestry education. The objectives of ANAFE are to:

- strengthen the content and delivery of tertiary education in agriculture, forestry and natural resource management with special focus on agroforestry
- facilitate links among education, research and extension staff, to maintain the relevance of education programmes.

Formally launched in April 1993, the network now has 98 member institutions in 34 African countries south of the Sahara. The network is managed through:

- a general meeting of members (every two years) that defines policy and goals
- a steering committee of 10 elected members who direct the operational strategies
- a coordination unit based at ICRAF, Nairobi, implementing day-to-day activities. There is also an outreach office in Bamako, Mali.

ANAFE is funded by the Swedish International Development Cooperation Agency (Sida). After five years, ANAFE is a thriving recognized network, catalysing the integration among disciplines in land-use education. Its main activities are:

- participatory curriculum development
- strengthening institutional capacity to deliver agroforestry education
- dissemination of information and documentation
- postgraduate programmes at 10 universities.

ANAFE is also a partner in agroforestry research, connecting the education system with advances in agroforestry research. It facilitates the participation of researchers in education — and teachers in agroforestry research. Agroforestry students contribute to research output.

The ultimate aim of ANAFE is to reach out to farmers and agroforestry extension organizations through graduates and outreach programmes. Other links with farmers include collaboration with NGOs, participation of farmers and extension workers in curriculum development, student practicals on farmers' fields, and the promotion of gender-sensitive curricula that recognize social, economic and cultural values.

South-south collaboration is a natural part of ANAFE. Several activities contribute to this: comparative analysis of educational systems in Africa, exchange programmes across disciplines and countries, and a global database on agroforestry education opportunities. ANAFE also stimulates links with international organizations.

Since donor funding is not eternal, the issue of cost sharing is instrumental for a sustainable network. ANAFE secures cost sharing in several ways:

- staff exchanges: costs of local counterpart, accommodation, local transport, communication, etc.
- curriculum reviews and workshops: planning, logistics and sometimes travel by host institutions
- postgraduate fellowships: towards partial fellowship — ANAFE covers research expenses only.

Finally, a few words about the outlook. Gradually, ANAFE is moving towards regional focal institutions in each of the four African regions where it works. This diversification will better address regional needs, and enhance regional responsibility for agroforestry training. Regional focal institutions also attract attention from other organizations interested in agroforestry education and training, thereby contributing to sustainability of the network.

### **Topics raised in the open forum**

- There is a need for an efficient mechanism for channelling research results to the different universities for education purposes. Here, a network could be helpful.
- Through scholarship programmes, ANAFE has been able to promote cross-enrolment and exchange of students.
- Curricular content: increasing the practical hours seems to be difficult. In most African educational systems, practical hours are worth less than theoretical hours; the value of practicals is not given appropriate emphasis.
- On cross-faculty collaboration: ANAFE has contributed to develop joint agroforestry curricula, for instance among faculties in forestry and agriculture.
- How can we train the students to work better with farmers?
- In UPLB, the curriculum needs to be restructured to provide both a skills-oriented programme and graduates well-trained in theory. However, students cannot be exposed immediately to the field practicum<sup>1</sup>, since they have other courses to take.
- There is a need to 'humanize' the curriculum of the university. That way, foresters can have similar exposure to social sciences to that of the agriculture and engineering graduates.
- On scholarships: the Filipinos may obtain scholarships through SEARCA.

---

<sup>1</sup> In the Philippines, 'field practicum' is the term used for field activities in an educational programme.

## Session 2. Examples of agroforestry education in Southeast Asia

### Institutional presentations

An important objective of the workshop was to compile and exchange information on agroforestry education and training in Southeast Asia. For this purpose, the participants had been requested to compile an institutional report, following the 'Checklist of Concerns' (Appendix 1). These comprehensive four to eight page institutional reports provided the basis for discussions and group work during the workshop. A summary of these reports appears in Appendix 2.

In session 2, selected institutions made presentations in plenary, as examples of agroforestry education in Southeast Asia. Time did not allow the presentation of all participating institutions. The presentations covered four types of institutions:

Forestry faculties	Gadjah Mada University, Indonesia Kasetsart University, Thailand
Agricultural faculties	Khon Kaen University, Thailand Misamis Oriental State College of Agriculture and Technology (MOSCAT), the Philippines
The university/ college framework	Thai Nguyen University, College of Agriculture UPLB Agroforestry programme, the Philippines
Other institutions	National University of Lao PDR, Faculty of Agriculture and Forestry Vietnam Agricultural Sciences Institute, Vietnam, Mulawarman University, Indonesia; Chiang Mai University,

The following section presents observations and remarks from the open forum.

### Forestry faculties

#### *Gadjah Mada University, Indonesia*

- There are institutional problems for employment — agroforestry does not fit within the sectoral frameworks.
- The duration of field training is an issue. How can we train foresters to work with farmers?
- Getting approval of new agroforestry courses is a slow process.
- The emerging role of agroforestry in food security is an important consideration in an agroforestry programme approval.

#### *Kasetsart University, Thailand*

- Potential enrolment and employment is an issue, what is the scenario?
- How to capture information about the profile of graduate employment?
- Usually, forestry graduates find employment quite easily, but the 11% unemployed are probably those who are selective in their job preference.
- In future, private sector employment, particularly concerned with environmental issues, will become more important.

- There is collaboration between the Faculty of Forestry and the Faculty of Agriculture in conducting agroforestry courses.

## **Agriculture faculties**

### *Khon Kaen University, Thailand*

- Is the programme based on perceived need or real need? How do you account for low enrolment?
- The programme is offered on the premise that the university has research experience to share.
- There is a bias in course content, depending on who (or which faculty or department) develops the curriculum.

### *MOSCAT, the Philippines*

- What was the basis of programme offering? The Bachelor of Agroforestry Technology programme was developed in response to environmental degradation and to a demand for such a course.
- What mechanism is in place to control quality? Issues on minimum standards require some deliberation.

## **The university/college framework**

### *College of Agriculture and Forestry, Vietnam National University*

- It is important to use university alumni to promote networking for continuous feedback on needs and information exchange.
- Agroforestry is a strategy in rural development, which is supported by other strategies like education, health and infrastructure development.

### *UPLB Agroforestry Program*

- The establishment of an agroforestry programme is more difficult in big universities than in small colleges.
- There is no straight formula for budget allocation in the university-wide programme.
- There is no single model that can be recommended in developing agroforestry programmes — many factors have to be taken into consideration, including the environment and people involved.

## **Other institutions**

### *Agricultural Science Institute, Vietnam (VASI)*

- Ethnic people are considered important in Vietnam, hence schools should cater for their needs, including special support for them to enter colleges.
- To what extent is VASI linked with the university system? The university is involved mainly in VASI's bachelor programme, and university lecturers are invited to give guest lectures.

### *National University of Lao PDR*

- Is a five-year professional programme (BS) too long? No, not considering that students only have 11 years of previous schooling.



*Mulawarman University, Indonesia:*

- Agroforestry is taught in both agriculture and forestry faculties as separate programmes. The agriculture programme emphasizes biophysical science while the forestry programme emphasizes social aspects.
- Is there staff exchange between agriculture and forestry faculties? Yes, there is, including exchange of teaching materials.

*Chiang Mai University*

- Currently, there is no plan for an agroforestry option — it has not been approved.
- Team teaching is being implemented.
- Chiang Mai agroforestry and community forestry curriculum development workshop in 1993 identified three pathways for developing agroforestry education:
  - In forestry or natural resources faculties (for example, Kasetsart University in Thailand, Gadjah Mada University and Bogor Agricultural University, Indonesia and Prince of Songkhla University in Thailand).
  - In agricultural faculties (Chiang Mai University and Kohn Kaen University in Thailand, MOSCAT in the Philippines)
  - In a university-wide framework (UPBL Agroforestry Programme in the Philippines, and in the College of Agriculture and Forestry, Vietnam National University, Thu Duc). Agroforestry can also be introduced in other institutions: national agriculture or forestry research centres; or combined faculties of agriculture and forestry (National University of Lao PDR).

## Observations and emerging issues

- We noted the high standard of the institutional reports (even the Lao Regional Extension and Training Centres submitted reports, in spite of not attending the workshop!)
- National and regional standards for agroforestry education: is there a need for a regional curriculum guide?
- How can we control quality in agroforestry education?
- What is the market outlook for graduates of agroforestry programmes: there is a need for methods and tools for assessing and monitoring employment patterns.
- How can we train foresters to work with farmers, in university education and in-service training?

## Session 3. Agroforestry education and training at the national level

This group work session on agroforestry education and training at the national level aimed at sharing national experiences, setting national priorities for the development of agroforestry education and training, and developing inputs for forthcoming workshop sessions on regional priorities.

The session intended to answer questions such as:

- What are the strengths and weaknesses of current agroforestry education and training?
- What factors limit the development of agroforestry education?
- What national policies are affecting development of agroforestry education and training?
- What opportunities for development of agroforestry education and training should be explored?

Based on institutional data, national working groups characterized the current status of education and training activities in agroforestry in the respective country. They also assessed the national needs and emerging issues related to content, delivery and development of those programmes. Finally, they identified potential areas for regional collaboration and listed factors that are constraints to, or could facilitate, such collaboration. The results of the work is displayed in a matrix for each country (Appendix 3).

Very briefly, these are some observations, needs and issues raised by the national working groups:

### Indonesia

- At BSc level, agroforestry is not a recognized study programme; it appears only as elective courses — there is a need for curriculum development and policy change (Ministry of Education and Culture).
- Teaching staff is of relevant quality in traditional disciplines, but not in agroforestry, and agroforestry teachers are unevenly distributed among institutions. Staff exchange is an option to improve this situation.
- Availability and maintenance of physical facilities is an issue.
- 'Agroforester' is a new job, not widely known to the public.
- There is a need for structured research in agroforestry — it is now hampered by lack of opportunities or procedures which are too complex.
- There are opportunities to strengthen existing collaboration among institutions.

The open forum discussed the possibility of offering a BS agroforestry program: universities have already developed a study programme that integrates agroforestry in the forestry and agriculture curricula. But at central level, this has not been approved.

### Lao PDR

- Currently, there is no MSc programme offered in agroforestry, but the subject is taught in BSc programmes and in non-formal training.
- There are not enough teaching staff, and there is a great need for upgrading agroforestry teachers.

- Language skills are weak, which limits access to foreign literature and information.
- Physical facilities need attention, particularly libraries.
- Students are weak in basic sciences.
- There is a lack of developed research programmes.

The open forum discussed the language issue in Lao PDR: several changes in the teaching of foreign languages have taken place — first French, later Russian, and only relatively recently, English. Lack of foreign language skills is an obstacle to regional collaboration, Thailand being an exception. But regional exposure will boost language skills.

## The Philippines

- Twenty-four schools teach agroforestry at different levels, including five different BS programmes in agroforestry, Post-secondary Diploma, Post-baccalaureate diploma, and MS agroforestry
- Curricula need modernizing
- There is inadequate number of agroforestry teachers
- Access to demonstration areas and sites for practical studies is not satisfying
- Communication technology should be enhanced
- Students have a tendency to be attracted to new curricular programmes
- Self-employment is important, and lack of career paths in government agencies is still a constraint
- Funding for research is limited
- The existing national network of agroforestry education institutions could be formalized.

Open forum: Minimum standards are set by the Technical Panel on Agriculture Education (TPAE) for BS program, major in agroforestry. The TPAE has prescribed the number of units, students, faculties, facilities, etc. This regulation was passed in 1981. However, not all schools are familiar with these minimum standards and this regulation needs revision. Separate minimum standards should also be developed for BS Agroforestry, Bachelor in Agroforestry Technology, Bachelor in Agroforestry Entrepreneurship, and MS Agroforestry.

## Thailand

- Agroforestry is offered in various programmes, such as social forestry, forest resource management, soil science, earth science. But bureaucracy is a constraint to curriculum development.
- There is inadequate coordination among teaching staff of agroforestry courses — staff exchange would help
- There is a need for demonstration plots, and for improved libraries
- Graduates may not find jobs in the field of agroforestry
- Most research is component oriented. Only some is interdisciplinary
- There is a need for a participatory approach in training
- The Council of Deans in Agriculture and Environmental Sciences is a good channel for curriculum development.

Open forum: The MSc programme normally takes two years. However, most students need four years to complete the course. Among the reasons for this are discipline of the students and teachers, and the large number of courses that the students need to take.

Other observations were: the need to promote self employment; the absence of courses related to entrepreneurship; and the need to integrate agroforestry into primary and secondary education, possibly as part of environmental science.

Strategies to increase job opportunities for the graduates are also needed. A dialogue between students and alumni — mostly employed in government and in NGOs — would be useful.

## Vietnam

- There is an urgent need for agroforestry and community forestry, and a need for improving agroforestry curricula
- Teachers lack background in social sciences and tools for rural development
- Facilities for teaching and research are in short supply
- The 'quality' of students is decreasing other areas of study are more attractive. There is a need to promote young rural students of agroforestry, with priority for ethnic minorities.
- Refresher courses for ex-students are needed
- More job opportunities for agroforestry graduates are desired
- Many interesting topics need to be researched, for instance land-use systems for allocated lands, or community-based development in the uplands
- The interest in institutional links is great, but such links are hampered by distance and by lack of infrastructure or funds.

Open forum: young people are not interested in pursuing programmes in agroforestry; they are more inclined to study, for instance, computers.

## Session 4. Regional issues and priorities — towards a regional agenda for action

### Overview—regional organizations and projects

Several institutes, networks or projects in Southeast Asia already address educational issues, in fields close to agroforestry. For the Southeast Asia Initiative for Agroforestry Education, it is essential to know the work of these organizations. We therefore invited representatives from several regional organizations to share their experiences.

### Inter-university cooperation in Southeast Asia

*Kamis Awang, Dean, Graduate School, Universiti Putra Malaysia*

The Universiti Putra Malaysia (UPM) was established in 1971 with three faculties: agriculture, forestry and veterinary science. There are now 11 faculties, one graduate school, three institutes, and three centres. The student population exceeds 23 000, and UPM has 900 academic and 3400 support staff. Its main campus, Serdang, at the outskirts of Kuala Lumpur covers 1200 hectares.

UPM takes an active part in inter-university cooperation in Southeast Asia through the:

- Four Forestry Faculty Network
- Southeast Asian University Consortium
- Asia Pacific Association of Forestry Research Institutions

The **Four Forestry Faculty Network** was initiated in 1988. It consists of the Faculties of Forestry at Kasetsart University (Thailand), UPM (Malaysia), and Universitas Gadjah Mada (Indonesia) and the College of Forestry at UPLB (the Philippines).

Activities consist of: meetings of deans; joint organization of conferences; student field visits into different countries; proposed ASEAN forestry textbooks; exchange of publications; and staff exchanges.

The **Southeast Asian University Consortium** for graduate education on agricultural and natural resources was launched on 19 September 1989. Its secretariat is housed at Southeast Asia Ministers of Education Organization — SEAMEO — Regional Centre for Graduate Study and Research in Agriculture (SEARCA), the Philippines.

Objectives of the University Consortium are to:

- provide highly trained personnel in agriculture and natural resources in Southeast Asia
- enhance cooperation among agricultural universities in the region
- utilize more fully and efficiently the scarce academic facilities and expertise available in each member country
- hasten institutional development through exchange of information, facilities, and the expertise among agricultural universities in the region.

There are five regular and two associate member universities of the consortium. Regular members are: Universitas Gadjah Mada, Malaysia; Institut Pertanian Bogor, Indonesia; Universiti Putra Malaysia; Kasetsart University, Thailand; and University of the

Philippines Los Baños. Associate members are University of British Columbia, Canada, and University of Queensland, Australia.

The programme includes: graduate student exchanges; faculty exchanges; research fellowships; a professorial chair; thesis grants; best thesis awards; and journals and textbooks published by the Southeast Asian University Consortium.

Its management structure consists of the secretariat, and a consortium coordinator at each university. There is an annual meeting and conference of consortium coordinators and an annual meeting of executive officers (deans of graduate schools). The consortium is financed by membership fees (US\$5000 a year for regular members and US\$10 000 for associate members) and other sources.

The **Asia Pacific Association of Forestry Research Institutions** (APAFRI) is an independent non-profit body, with a mission to enhance research and technology development capabilities in support of conservation and management of forest resources in the region. It was launched in Bogor, Indonesia in February 1995. The secretariat is located at the Faculty of Forestry, UPM, and is linked to the International Union of Forestry Research Organizations (IUFRO) Asia-Pacific.

Membership is open to research institutes, universities, NGOs, international organizations and the private sector. The current membership is 37 institutions in 18 countries. The fees vary from US\$50–1000.

APAFRI aims to be recognized as a dynamic, strong and self-reliant forestry research association in the Asia Pacific Region, promoting innovative research and development efforts in support of national, regional and community development.

The aim of APAFRI is to foster research for sustainable forest management in the Asia Pacific region. It plans to do this by facilitating cooperative research and training programmes, and strengthening links between national, regional and international centres and organizations. APAFRI is managed by a general assembly, an executive committee, and a secretariat headed by an executive secretary.

### **Regional Community Forestry Training Centre (RECOFTC)**

*Robert Fisher, Head of programme development, RECOFTC*

The Regional Community Forestry Training Centre (RECOFTC), based in Bangkok, Thailand, is primarily concerned with training — it is not a university. Nevertheless, it has a strong interest in overall conceptual development of community forestry and related topics. To achieve this, RECOFTC works in collaboration with educational institutions, especially in curriculum development and staff training.

The training objectives of RECOFTC are:

- a training programme that identifies new topics, tools and materials and approaches to address the community forestry training needs of the region
- a documentation and dissemination system for new concepts, ideas, experiences and knowledge concerning community forestry
- an active role in promoting people's participation in sustainable forest management
- technical assistance to training and educational institutions, projects, NGOs and local communities to strengthen their capacity to incorporate participatory approaches, tools and methods into their activities.

RECOFTC's activities include regional training, a regional outreach programme (including the Forest Trees and Peoples Programme (FTPP) for Asia-Pacific), a national outreach programme in Thailand, and programme development.

Its training programme consists of international courses in Thailand and other countries; and national courses in various countries and in national languages. Among the courses are a 15 week course in community forestry. A number of courses on specialized themes are also on offer.

RECOFTC views agroforestry education as complementary, and is interested in curriculum development, especially in marketing. It is also interested in action research methods and participatory methods.

### **FAO and forestry education**

*Patrick Durst, Regional Forestry Officer, FAO Regional Office for Asia and the Pacific*

The FAO Regional Office for Asia and the Pacific has participated in, or supported, several education activities and projects during the last decade:

- social forestry curriculum development at Kasetsart University, Thailand
- forestry education development, Bangladesh
- forest products marketing curriculum at UPLB, the Philippines
- forestry extension curricula (Forestry Paper 85, 1988)
- organization of two curriculum development consultations
- support in establishing RECOFTC.

FAO provides a range of information and forestry education tools, such as

- a list of forest education and training institutions
- technical forestry education design and implementation
- a directory of selected tropical forestry journals and newsletters
- short-term training courses in forestry
- an Asia-Pacific forestry sector outlook study
- other FAO publications.

FAO also takes part in exchange and networking activities, such as the Asian Network on Forestry Education. Training of trainers is an important activity, supported through several projects, including the Asia-Pacific Agroforestry Network (APAN).

FAO plans to hire new forestry education, agroforestry and land-use officers, and formulate an Asia-Pacific Regional Forestry Education Support Project.

## **Social Forestry Support programme (SFSP), Vietnam**

*Peter Taylor, Technical Advisor: Education, SFSP*

Traditional training in forestry has concentrated mainly on uniform management of large stands of forest, managed by a relatively small number of people. Social forestry in Vietnam poses entirely different demands on training. The target group is no longer a few thousand staff in government service or in the state forest enterprises, but millions of farmers. The emphasis can no longer be laid on uniformity, but on the varied and multiple production systems of farmers living under highly diverse conditions. There is now a need to develop a system of training which stretches all the way from the policy maker to the farmer.

The Social Forestry Support programme (SFSP), funded by the Swiss government (SDC) and managed by Helvetas, Swiss Association for International Cooperation, started in Vietnam in 1994. The main aim of the first phase of SFSP was to respond to the rapidly changing approach to forestry in Vietnam, and to support the development of social forestry education and training programmes in the Forestry College of Vietnam in Xuan Mai, Ha Tay Province, about 30 km west of Hanoi.

In the present second phase of SFSP, there are now seven working partners. Five of these are tertiary level educational institutions offering degree courses in forestry, including the Forestry College of Vietnam. These institutions have between them diverse experience of delivering social forestry education and training programmes. But all are preparing to introduce major changes in their curricula, to incorporate courses in social forestry.

All five educational partners offer some aspect of agroforestry training as part of the overall forestry degree programme, and agroforestry will certainly be a key component of any 'social forestry' training programme.

In addition to the five educational institutions, SFSP includes a provincial extension organisation and a national research institute. The involvement of these two partners means that a strong link should exist between curriculum development and teaching and learning at institutional level, and the realities of the field, thus broadening the base for learning.

Support in SFSP is provided in three main areas

- human resources development
- generation of knowledge
- information exchange.

The main focus for support by the programme is on human resources development, complemented and strengthened by generation of knowledge and information exchange. The technical assistance component of the programme, which is designed to enable the SFSP working partners to achieve their identified developmental goals, provides a specialised team of four full time expatriates.

SFSP phase II has started very vigorously with a varied series of activities. These include curriculum development support, establishment of information centres in each partner institution (including internet access and the creation of a documentation centre) and training in human resources development, curriculum evaluation, internet use, facilitation skills, and principles and methods of research. After two and a half years, the programme



will be reviewed to ensure that it develops according to the needs of the partners and the ultimate beneficiaries, the farmers.

SFSP aims to support the establishment of a social forestry training network in Vietnam, but there are also reasons for this network to develop its own links with other relevant networks. SEANAFE is likely to be one such network, as it focuses on agroforestry, a key aspect of social forestry education and training. The involvement of members of SFSP in SEANAFE should certainly benefit the development of social forestry education and training in Vietnam and specifically the development of agroforestry education, both in Vietnam and in the region.

## Results of group work on regional issues and priorities

Widening the perspective from the national situations to the regional scene, the objectives of the group work in Session 4 were to:

- set the stage for long-term regional collaboration on agroforestry education and training
- identify priority needs and issues in the development of agroforestry education and training in Southeast Asia.

This session analysed the national issues and priorities in a regional context. Four cross-national groups discussed the results from the national level, in order to suggest priorities for prospective regional collaboration.

Some guiding questions were:

- How could national priority issues (identified in Session 3) be addressed through regional collaboration?
- What are the strengths of each country that can be used as contributions in future networking? What weaknesses could a regional networking address?
- What regional and international initiatives or organizations could contribute to the development of agroforestry education in the region? How?
- How could regional initiatives and national efforts best be combined in a future network?
- How could links between education, research and extension be established, maintained and enhanced?

The results from the working groups are summarized in Table 1 below. The plenary discussion following the presentation of the results brought up some topics:

- Establishment of on-farm demonstration sites should meet the three functions of action research, extension and education. In addition, the following should be enhanced: participation of farmers, minimizing of cutting of trees, and credibility to the farmers.
- The need for a regional research priority that can serve as a model for other countries.
- The expressed need for a newsletter or journal for a future network might be met by combined with APAN news or Agroforestry Today. A joint newsletter with APAN would be particularly appropriate. There are advantages in working with an existing publication.
- Small schools are often not on mailing lists for newsletters and journals. This needs attention.
- Participatory methods for extension are a very important element. We need links between the field and the academic levels.

- Interest in a curriculum guide is high. Peter Taylor, from the Social Forestry Support programme, Vietnam, presented one possible approach to a curriculum guide for agroforestry:
  - *Curriculum development methods*: participatory needs analysis; participatory curriculum design; participatory curriculum evaluation
  - *Agroforestry content*: suggestions for basic principles and topics, underpinning agroforestry, including field practicums, internships and other hands-on experience and opportunities
  - *Curriculum materials*: case studies; research results; extension methods, etc.
  - *Curriculum delivery methods*: teaching and learning strategies appropriate to agroforestry.

Table 1. Results of cross-national work groups—priority areas for regional collaboration

Concern	Group 'diamonds'	Group 'hearts'	Group 'spades'	Group 'cloves'
<b>Agroforestry curricula</b>	<ul style="list-style-type: none"> <li>standardize course content for AF courses</li> <li>recommend minimum standards for AF education</li> <li>facilitate regular information exchange</li> </ul>	<ul style="list-style-type: none"> <li>set minimum standard for agroforestry curriculum (AF used in title of course, both in undergraduate and graduate programmes)</li> <li>develop a common introductory course in agroforestry (in content, scope)</li> <li>produce guidelines for integrating agroforestry in agriculture and forestry courses</li> </ul>	<ul style="list-style-type: none"> <li>produce guidelines and methodology in curriculum development</li> <li>work towards defining a minimum requirement within a country in developing agroforestry curriculum</li> <li>devise regional programme of agroforestry curricula to provide opportunities for upgrading professional skills at postgraduate level (short courses or degrees)</li> <li>incorporate elements of regionalization in curriculum</li> </ul>	<ul style="list-style-type: none"> <li>assist in development or improvement of agroforestry curricula in countries where it is not yet developed, or needs improvement</li> <li>provide general guidelines of subject matter coverage and content for science-oriented curricula</li> <li>provide curricula on agroforestry entrepreneurship, if so desired by member institutions</li> </ul>
<b>Faculty and teaching staff</b>	<ul style="list-style-type: none"> <li>train young faculty and staff to ensure continuity of agroforestry programmes</li> <li>facilitate faculty and staff exchange</li> <li>include external adviser as member of theses and dissertation committees for AF education</li> </ul>	<ul style="list-style-type: none"> <li>organize exchange of faculty</li> <li>train agroforestry faculty (formal and non-formal)</li> <li>support coordination, team teaching</li> </ul>	<ul style="list-style-type: none"> <li>develop staff exchange programme</li> <li>arrange collaborative staff training program</li> </ul>	<ul style="list-style-type: none"> <li>train agroforestry educators and specialists in member institutions</li> <li>provide mechanisms for improving language skills, e.g. English</li> <li>provide financial assistance (fellowships, research, exchange, secondments)</li> </ul>
<b>Physical facilities</b>	<ul style="list-style-type: none"> <li>develop and strengthen internet capability for focal institutions to facilitate information exchange</li> <li>translate recommended agroforestry references written in other languages into English</li> <li>recommend basic references for AF subjects that should be available in the library</li> <li>develop AF field laboratories</li> <li>facilitate exchange of teaching materials (e.g. audiovisual guides, manuals)</li> </ul>	<ul style="list-style-type: none"> <li>establish learning laboratories (demo sites)</li> <li>organize learning laboratories to allow cross-country visits</li> <li>common database and access possible through internet</li> <li>exchange books and other publications in agroforestry among libraries</li> </ul>	<ul style="list-style-type: none"> <li>improve teaching materials, based on regional information and needs</li> <li>teaching aids and materials</li> <li>initiate electronic information exchange, within and among countries, on experts, agroforestry schools, availability of jobs</li> </ul>	<ul style="list-style-type: none"> <li>develop instructional facilities, e.g. books, resource materials, communication facilities like AV equipment and training materials</li> <li>support village or community farm sites to enhance instruction, research and extension</li> <li>provide case studies at institutional level in areas where these are appropriate</li> <li>produce instructional materials on available agroforestry technology for local country use</li> </ul>

# SESSION 5. ACTION PLAN FOR COUNTRY STUDIES

Table 1. Results of cross-country work groups—priority areas for regional collaboration, continued

Concern	Group 'diamonds'	Group 'hearts'	Group 'spades'	Group 'cloves'
<b>Students</b>	<ul style="list-style-type: none"> <li>▪ develop international programme for student exchange in different levels (e.g. short courses, non-degree courses)</li> <li>▪ include international travel to focal institutions as requirement (with credit) of AF programmes</li> </ul>	<ul style="list-style-type: none"> <li>▪ encourage student exchange and study tours (both local and abroad)</li> <li>▪ allow inter-university membership in thesis advisory committees or as external readers</li> <li>▪ provide scholarships and thesis grants</li> </ul>	<ul style="list-style-type: none"> <li>▪ arrange student exchange programme</li> </ul>	<ul style="list-style-type: none"> <li>▪ provision of scholarship including research and thesis grants</li> </ul>
<b>Graduates</b>	<ul style="list-style-type: none"> <li>▪ explore possibilities of creating job opportunities</li> <li>▪ conduct a survey among potential employers of the regional demand for agroforestry graduates</li> </ul>	<ul style="list-style-type: none"> <li>▪ support graduate fellowships and continuing education</li> <li>▪ survey and request for positions in government and NGOs in the region and circulate information through a network database</li> <li>▪ conduct forums and conferences on agroforestry and have agroforestry job opportunities as one topic</li> </ul>	<ul style="list-style-type: none"> <li>▪ stimulate job placement for graduates</li> </ul>	<ul style="list-style-type: none"> <li>▪ provide information on job availability within the region through e-mail or other appropriate means of communication</li> </ul>
<b>Research programmes</b>	<ul style="list-style-type: none"> <li>▪ develop a regional research master plan for agroforestry to include standard research methods, collaborative research, community service approaches</li> </ul>	<ul style="list-style-type: none"> <li>▪ set research priorities for the region</li> <li>▪ identify sources of funds for research</li> <li>▪ create a research network for coordination (research proposals, inter-university research collaboration, dissemination of results)</li> <li>▪ publish a journal on agroforestry</li> </ul>	<ul style="list-style-type: none"> <li>▪ strengthen research capacity</li> <li>▪ organize joint research programme</li> </ul>	<ul style="list-style-type: none"> <li>▪ encourage interdisciplinary collaborative research within network members</li> <li>▪ provide funds for research attendance to meetings, seminars, conferences, etc.</li> <li>▪ establish a scientific journal, newsletter or other publication to facilitate exchange of information among network members</li> </ul>

# SESSION 5. ACTION PLAN FOR COUNTRY STUDIES

Table 1. Results of cross-country work groups—priority areas for regional collaboration, continued

Concern	Group 'diamonds'	Group 'hearts'	Group 'spades'	Group 'cloves'
<b>Extension programmes</b>	<ul style="list-style-type: none"> <li>develop action research master plan</li> <li>participate in the Alternatives to Slash-and-Burn (ASB) programme</li> </ul>	<ul style="list-style-type: none"> <li>develop inter-country, community-based extension programmes (cross-country visits between extension officials and farmers)</li> <li>link with NGOs as channel for regional collaboration</li> <li>exchange of extension materials</li> </ul>	<ul style="list-style-type: none"> <li>organize meeting</li> <li>stimulate packaging of research results</li> <li>translate information materials into local dialects</li> </ul>	<ul style="list-style-type: none"> <li>provide agroforestry specialists as resource people for in-country training programmes</li> <li>link with appropriate donor agencies for acquisition of equipment and materials for mobile extension programmes</li> <li>publish case studies, manuals, AV materials appropriate for individual country needs</li> <li>train country trainers, specialized in extension activities</li> </ul>
<b>Administration and policy</b>	<ul style="list-style-type: none"> <li>formalize a network for agroforestry education in Southeast Asia, to include international programme mechanisms, sustainability</li> <li>identify funding sources</li> </ul>	<ul style="list-style-type: none"> <li>conduct regional meetings, conferences and workshops among administrators and policy makers</li> </ul>	<ul style="list-style-type: none"> <li>promote agroforestry as a profession</li> </ul>	<ul style="list-style-type: none"> <li>hold consultative meetings, roundtable discussion and other forums for VIPs in government, especially those who may have a hand in policy making on important agroforestry issues</li> </ul>
<b>Institutional links</b>	<ul style="list-style-type: none"> <li>arrange cross-country visits of farmer cooperators, students, faculty</li> <li>explore possibility of linking up with existing networks involved in agroforestry (e.g. SEARCA, APAFRI)</li> </ul>	<ul style="list-style-type: none"> <li>establish a society or association of SEA agroforestry advocates</li> <li>use newsletter, email and Internet for information exchange</li> <li>provide support to local networks to strengthen and link them to the regional network</li> </ul>	<ul style="list-style-type: none"> <li>promote inter-networking</li> </ul>	<ul style="list-style-type: none"> <li>initiate local in-country networks among institutions with agroforestry programmes to encourage resource optimization of facilities</li> <li>facilitate links with already existing networks in the Asia-Pacific region</li> </ul>
<b>Other aspects</b>		<ul style="list-style-type: none"> <li>organize regional workshop among farmers, indigenous peoples</li> </ul>	<ul style="list-style-type: none"> <li>recognize the sustainability issue</li> </ul>	

## Session 5. Action plans for country studies

### Education fellows

One key activity for the Southeast Asia Initiative for Agroforestry Education is to carry out a country study in each of the five countries. Although the participants in the regional workshop provided good information, there is still a need to broaden and deepen the data collection, and above all, to consolidate the analysis at the national level.

For this purpose, ICRAF appointed an 'Education Fellow' in each country:

Indonesia	Mr Widiyanto, Faculty of Agriculture, Universitas Brawijaya
Lao PDR	Mr Somphanh Pasouvang, Faculty of Agriculture and Forestry, National University of Lao PDR
The Philippines	Dr Romulo A. del Castillo, UPLB Agroforestry Program, University of the Philippines Los Baños (Dr del Castillo is a Senior Agroforestry Education Fellow for the Initiative)
Thailand	Dr Patma Vityakon, Faculty of Agriculture, Khon Kaen University
Vietnam	Mr Nguyen Van So, Faculty of Forestry, Vietnam National University of Hochiminh City

These fellows will coordinate the national studies and report the findings in a country report. The country studies will be carried out during April–June 1998. The results will be analysed during a meeting of the education fellows in early August 1998.

To make the country study a 'team effort', Session 5 returned to the national groups, asking them to prepare an action plan for each country study, including budgeting requirements (on a cost-sharing basis if possible).

### Country studies

The objectives of the session were to:

- provide guidance for, and harmonize the work of the five education fellows
- develop feasible work plans for the implementation of country studies, to collect baseline data on agroforestry education and training.

Important questions to be addressed in the country studies are, for instance:

- Which education and training institutions should be included in the country study, in addition to those present at this meeting?
- How could agroforestry training needs be included?
- How will this study complement, or be integrated into, the ongoing work of similar national networks (e.g. social forestry network in Vietnam).
- What existing resources, from institutional or project sources, could be tapped to support a country study?

The action plans for the country studies were presented and discussed in a plenary session:

- All five country groups decided to use a combination of questionnaires, visits, and meetings and workshops to collect and analyse the country information.
- They also decided to work as teams, coordinated by the education fellow. Most teams decided to divide the data collection geographically among the team members.

- In the case of Lao PDR, the detailed planning was left to be done after the workshop, pending a formal nomination of the country fellow from the National University of Lao PDR.
- The Philippines, Vietnam, Lao PDR and Thailand decided to arrange national agroforestry education workshops to collect and evaluate information. These were scheduled to take place during mid-May to mid-June 1998.
- Indonesia choose a slightly different approach. Due to the very large number of institutions and the high travel costs, they opted for a smaller team meeting to analyse the data.
- In the Philippines, a national inventory was done in 1996. The forthcoming country study will build on this work.
- In Vietnam, the Swiss-funded Social Forestry Support programme has created a network of forestry institutions. This network will be helpful in the country study.
- The groups submitted draft budgets for the country studies.
- The detailed planning of work and budget, including design of the tools for data collection was left to be compiled by the education fellows after the workshop.

## Session 6. Putting it all together

This final session consisted of:

1. Summary of the proposed strategy for the continued work of the Southeast Asia Initiative for Agroforestry Education
2. Synthesis of the workshop deliberations and the adoption of the work plan for the Initiative, and for follow-up action at country level
3. Evaluation of the workshop vis-à-vis participants' expectations
4. Closing ceremony

The priorities from Session 4 regarding the regional level were revisited and discussed. In summary, the participants agreed on a number of priority areas for regional collaboration. These areas are listed in Table 2 below. Moreover, the workshop participants:

- endorsed the continued work plan of the Southeast Asia Initiative for Agroforestry Education, to be implemented by the project team and the education fellows
- delegated to the project team the responsibility to develop a proposal for a prospective regional network — the Southeast Asian Network for Agroforestry Education.

Table 2. Priority areas for regional collaboration

Area	Priority areas for collaboration
Agroforestry curricula	<ul style="list-style-type: none"> <li>▪ Concern about minimum standard</li> <li>▪ Curriculum guide desired</li> <li>▪ Guidelines for integrating agroforestry in forestry and agriculture courses</li> </ul>
Teaching staff	<ul style="list-style-type: none"> <li>▪ Staff exchange programmes</li> <li>▪ Collaborative staff training</li> <li>▪ Train young staff for continuity</li> <li>▪ Opportunities for language training</li> </ul>
Teaching facilities	<ul style="list-style-type: none"> <li>▪ Great demand for teaching materials development, exchange, translation</li> <li>▪ Internet: opportunity for information exchange</li> <li>▪ Share case studies</li> <li>▪ Demonstration sites</li> </ul>
Students & graduates	<ul style="list-style-type: none"> <li>▪ Student exchange</li> <li>▪ Thesis grants for agroforestry</li> <li>▪ Share information on job opportunities regionally</li> <li>▪ Marketing of agroforestry graduates</li> </ul>
Research	<ul style="list-style-type: none"> <li>▪ Strengthen research capacity</li> <li>▪ Intra-university research collaboration</li> <li>▪ Share information on agroforestry research methods</li> <li>▪ Identify sources of funds for research</li> </ul>
Extension	<ul style="list-style-type: none"> <li>▪ Provide agroforestry specialists in training programmes</li> <li>▪ Exchange of extension materials</li> <li>▪ Publish case studies, manuals etc.</li> </ul>
Policy	<ul style="list-style-type: none"> <li>▪ Promote agroforestry as a profession</li> <li>▪ Meetings and workshops with policy makers</li> </ul>
Institutional linkages	<ul style="list-style-type: none"> <li>▪ Facilitate in-country networks, to optimize use of available resources</li> <li>▪ Promote inter-regional networking in Southeast Asia</li> <li>▪ Link with existing local, national and regional networks</li> <li>▪ Newsletter; Internet for information exchange</li> </ul>



## Evaluation

*Chun K Lai, Visiting Scientist, ICRAF*

In the closing session, participants were invited to provide both positive and negative feedback about the workshop, relative to the expectations they expressed during the first session.

The overall assessment was very satisfactory, with most expectations met. There were high marks for the workshop organization, process and facilitation, as well as the excellent back-up services from the support team. Most thought that the workshop was well-structured, which allowed for a logical progression of tasks and outputs. The facilities were generally rated very good. Participants reported that they gained valuable insights and information on the current status of agroforestry education in the region. They established and strengthened many friendships and contacts. The workshop helped to build commitment and a shared vision, as well as to promote networking among different institutions and countries, thus laying a sound foundation for a prospective SEANAFE.

On the negative side, a few participants felt that the workshop programme was too ‘dense’ and some sessions too short, while one commented that the workshop could have been shortened to sustain interest and focus. One commented that there was no time to visit UPLB. There was an opinion that a clear focus of SEANAFE was not yet achieved, although the good ideas generated by the workshop would contribute to a clear focus in the near future. Another feedback was that there was sometimes more than one agenda being followed (normal at networking meetings), which led to some confusion occasionally. Finally, at least one participant said there was too much food — and too much weight gained during the workshop!

# Appendix 1. Checklist of concerns—guidelines for institutional reports

## ➤ **Historical background**

When and how did agroforestry curriculum development start at your institution?

## ➤ **Agroforestry curricula**

- a) Type of agroforestry curricula currently offered (please provide a copy of each):
  - i) **selected agriculture** (including livestock and animal husbandry) **and forestry subjects** (to which agroforestry concepts have been integrated) — please specify and give description of each
  - ii) **special integrative agroforestry courses** — offered as required or elective subjects in existing Bachelor of Science in agriculture or forestry degree programmes (please give title and description of each)
  - iii) **technical level course** (two years beyond secondary education) — please provide the complete title of the certificate or diploma degrees awarded by your institution
  - iv) **professional degree course(s)** — please specify degree title and duration
  - v) **graduate degree course(s)** — please specify degree title and duration
  - vi) **short-term training course(s)** — please give course title(s) in full and duration of each course
- b) Name of administering unit for each degree or non-degree course offered
- c) Description of how curricula are developed and revised

## ➤ **Faculty**

- a) List of teaching staff in agroforestry classified by gender and further classified into full-time, part-time and affiliate agroforestry staff
- b) Level of education and field of specialization of each teaching member
- c) Description of how team teaching is practised and in what subjects
- d) Current staff development programme (including expansion as well as upgrading plans, if available)

## ➤ **Students**

- a) Student recruitment programme: How are students recruited? What strategies are used to increase enrolment?
- b) Requirements for admission
- c) Number of students (by gender and grade level) enrolled in each agroforestry course offered during the last three years
- d) Proportion of student recipients of full and partial scholarship support, and from what sources?

➤ **Graduates**

- a) Profile of graduates during the last three years classified by course and gender
- b) List major sources of employment for graduates arranged by absorptive capacity and attractiveness

➤ **Existing facilities**

- a) Library resources in agroforestry and related subjects
- b) Agroforestry laboratory facilities used in teaching and research
- c) Production of teaching and extension materials

➤ **Research and extension programmes**

- a) Title and description of ongoing research and extension projects
- b) Title and description of regular and occasional publications

➤ **Institutional links**

List of collaborating institutions, classified into the nature of relationship whether as fund provider, service employer, networking, etc.

➤ **Institutional development needs**

Enumerate perceived development needs to strengthen curricular programmes in your institution, arranged from major to minor

➤ **Plans for the next five years**

Please give specific plans for the next five years for further development of agroforestry curricula

## Appendix 2. Summary of institutional presentations

### Indonesia

#### **Forestry Faculty, Lambung Mangkurat University, South Kalimantan**

*H Mahrus Aryadi*

Agroforestry education was established in the Faculty of Forestry, Lambung Mangkurat University in 1986, as a sub-programme under the Management Department. The programme had 3 major subjects: social forestry, protection shifting cultivation, and soil fertility.

In 1995, the new curricula feature agroforestry as major subject within the silviculture study programme, including field research in agroforestry and social forestry.

Ten staff members are involved in the field research in agroforestry. For teaching the agroforestry course, team teaching by three lecturers is the preferred approach. About 25% of the students in the Management Department take the agroforestry course.

Currently, there are no agroforestry research or extension projects.

To develop the institution, the Forestry Faculty needs:

- staff training for agroforestry research
- upgrading of staff to PhD level
- sufficient supply of new literature (although some teaching materials have been produced internally)
- guest lecturers to cover new development in agroforestry research and technology. In the longer term, there is a need for institutionalizing agroforestry education under a full agroforestry programme.

#### **Faculty of Forestry, Bogor Agricultural University (IPB)**

*Cecep Kusmana*

When the Faculty of Forestry of IPB was established in 1963, it had two departments and study programmes: Forest Management, and Forest Product Technologies. In 1983, Forest Resources Conservation was added.

Agroforestry comes under the Forest Management programme study of, in the 'studio of socioeconomics and policy of forestry'. Although agroforestry is not a fully-fledged study programme, several undergraduate (BSc and forest engineer) courses relate to agroforestry education: community forestry (two credits); forest sociology (two); forestry extension (three); agroforestry (three credits elective course); and silviculture (three).

On average, 8–15 students enter 'studio of socioeconomics and policy forestry' each year, and 30–50% of these are female. At least two per year select research themes on agroforestry. Also at graduate level, at least two students annually conduct special research in agroforestry.

The Ford Foundation supports agroforestry and social forestry research at IPB.

Staff of the Forestry Faculty are involved in research and extension programmes linked to agroforestry, including fishpond-forest ecosystems, community forestry and mangrove rehabilitation.

### **Faculty of Forestry, Gadjah Mada University**

*M Sambas Sabarnurdin*

At the Faculty of Forestry at Gadjah Mada University, agroforestry education began in the 1980s, when long-term collaboration with Wageningen Agriculture University, the Netherlands, started. The first course on agroforestry was organized in 1981, and improved in 1986 to feature ecological aspects and tree-crop interaction. In the present S1-programme (*Sarjana* 1, undergraduate level), agroforestry is a compulsory course in the silviculture programme, and it is an elective for other programmes (i.e. wood utilization, forest resource conservation, and forest management). Around 110–120 students are admitted annually. The Faculty of Forestry has 76 teaching staff, out of which about 13 can teach agroforestry.

Currently, the depressed job market and tight administrative procedures are constraints to establishing a new formal study programme in agroforestry. But the Faculty is looking for the best possible way to do so.

At technical level, the Faculty has offered a three-year diploma programme in general forestry since 1996. The curriculum includes agroforestry, social forestry and the anthropology of village society.

There is no special degree programme in agroforestry.

A number of factors point towards an increasing demand for ‘agroforesters’— which should be addressed by education programmes:

- increasing action research on social forestry and agroforestry
- a commitment of the Ministry of Forestry to generate more food on forest land
- a changing attitude from timber-oriented practices to diversified forest products.

### **Mulawarman University, Samarinda, East Kalimantan**

*Riyanto Soedjalmo*

Mulawarman University, located in tropical rainforest, plays a key role in developing education research and extension services for this ecosystem. Sustainability of the tropical rainforest, which has been disturbed by shifting cultivation and commercial activities, is a main concern for the University. Agroforestry has therefore been incorporated into the curriculum, in 1980 (agronomy) and 1983 (forest management). In 1993, Mulawarman University started an MSc programme in forestry, where agroforestry subjects are included.

However, under the 1997 policy of the Directorate General of Higher Education, a study programme of agroforestry for a BSc, certificate or diploma in agriculture or forestry would not be accepted. The current approach in both agronomy and forest management programmes is therefore a compulsory agroforestry course (two or three credits), supported by several courses such as basic ecology, plant ecology, forage, horticulture, agroclimatology, communication and extension, rural sociology, soil and water

conservation. In the MSc programme in forestry, advance agroforestry is given in the third semester.

Research in agroforestry covers, for instance, community based forest management, traditional methods for natural forest management, and effects of shading on the growth and production of upland rice. Extension work includes prevention of slash-and-burn practices through agroforestry, and backyard farming as a source of sustainable income for 'transmigrasi' farmers.

Mulawarman University has a successful relation with the University College of Cariboo, Canada, which involves a vision of agroforestry, social forestry, integrated community development and environmental initiatives.

### **Faculty of Agriculture, Brawijaya University**

*Widianto*

Agroforestry systems such as home gardens, multistorey cropping, and alley cropping are widely practised in Indonesia, particularly in densely populated eastern Java. Brawijaya University therefore introduced agroforestry-oriented education in the early 1980s. Staff of the Faculty of Agriculture have conducted a number of research projects directed towards an interdisciplinary approach in agriculture.

Under the nationally standardized agriculture curricula (as mentioned by Riyanto, above), agroforestry is not considered as a study programme. Instead, students at the Faculty of Agriculture may select a research topic, and (limited) course subjects related to agroforestry (this is selected by 10–15% of the students). An introductory agroforestry course (three credit units) is offered at various study programmes within the Faculty.

In graduate programmes, agroforestry is often selected as a topic for the final thesis of students in soil and water management, crop science, agriculture economics, and animal production.

In addition, the Faculty has conducted a one-year course on agroforestry and soil conservation, at the request of Agriculture Department, in order to upgrade field extension staff for upland agriculture.

Regarding teaching facilities, laboratories and classrooms are sufficient, but equipment and literature are lacking.

## **Lao PDR**

### **Faculty of Agriculture and Forestry, National University of Lao PDR**

*Somphan Pasouvang and Bounhanom Vanhnouvong*

The National University of Lao PDR recently created a joint Faculty of Agriculture and Forestry (FAF). This is located at two campuses outside Vientiane — Nabong and Dong Dok. The Faculty consists of departments of forestry, crop production and animal production, and offers higher diploma and degree (Bachelor) programmes.

The Bachelor of Agriculture programme was established in 1992. In this programme, a two-credits agroforestry course is taught by the crop production department. Agroforestry literature is scarce, particularly for student use. Some books are translated from foreign languages.

Out of a staff of 30 at Nabong campus, two have recently attended a one-year agroforestry course in Maejo University, Chiang Mai, Thailand.

During 1998, the University is preparing a 'model of agroforestry' project at Nabong Campus.

### **Southern Agriculture and Forestry Extension and Training Centre<sup>2</sup>**

*Thongsa Bounpakorp*

Located in Sepon District in Savannakhet Province, the Southern Agriculture and Forestry Extension and Training Centre (Southern AFETC) is one of two similar centres under the Department of Forestry. Formerly a forestry technical school, the Centre was formed in 1996.

The Centre's mandate covers several land-use systems including rice, upland field crops, animal science, and a wide range of forestry subjects. Target groups for the training courses are both village representatives and staff of the departments of forestry and agriculture within the Ministry of Agriculture and Forestry.

Very few people in Lao PDR have formal agroforestry training, and no formal agroforestry programme exists within the Department of Forestry. The first national agroforestry workshop was held in 1992. The lack of staff trained in agroforestry affects both extension and education. The Southern AFETC suffers from this deficiency — currently there is no agroforestry curriculum, and a lack of skilled trainers. There is a real need to upgrade and develop trainers and administrators of the Southern AFETC.

### **Northern Agriculture and Forestry Extension and Training Centre<sup>3</sup>**

*Thansamay Vongxomphou*

Like its southern twin, the Northern Agriculture and Forestry Extension and Training Centre in Luang Prabang trains farmers, and staff at Provincial and District level. Courses typically last from two weeks to three months.

The Northern AFETC is located in the uplands where shifting cultivation is the predominant land use system, and therefore agroforestry is getting increasing attention at the Northern AFETC. This is partly in response to the new policy to reduce shifting cultivation. Among the agroforestry techniques/methods farmers use are: teak with rice and cash crops, intercropping with fruit tree species, and fodder production on fallows. However, agroforestry is not new to the Centre — aspects of agroforestry were taught in the then Forestry Technical College during the years 1986–1995.

---

<sup>2</sup> The Southern Agriculture and Forestry Extension and Training Centre submitted an institutional report, but was unable to attend the workshop.

<sup>3</sup> The Northern Agriculture and Forestry Extension and Training Centre submitted an institutional report, but was unable to attend the workshop

A curriculum for agroforestry is under development. Meanwhile, agroforestry is taught as part of extension. Teaching staff consists of 12 forestry and two agriculture teachers, most with certificate level education. The lack of trained and experienced agroforestry staff is a constraint. Facilities include a small library and a demonstration site on agroforestry. The Northern AFETC collaborates with several organizations, among them the International Rice Research Institute and the Lao-Swedish Shifting Cultivation Sub-programme.

## The Philippines

### **Misamis Oriental State College of Agriculture and Technology (MOSCAT)**

*Juan A Nagtalon and Hermenegildo S Sitoy*

MOSCAT, located in Northern Mindanao, was established as a state college in 1983 to:

- provide quality instruction and relevant training in agriculture, science and technology
- promote research, advanced studies and professional leadership in the advancement of knowledge for the continuing improvement of the quality of life, especially in the countryside.

To produce entrepreneurs in agroforestry, MOSCAT started offering the ladderized Diploma in Agroforestry Technology (DAFT) leading to a Bachelor in Agroforestry Technology (BAFT) in 1995 (ladderized means that students could graduate at diploma level after two years, or continue towards a bachelor degree). The DAFT allows students to undergo a field practicum, and an occupational internship programme is offered in the fourth year of the BAFT.

Three faculty members are involved in agroforestry teaching. Two of them are part-time instructors. Only one serves as a full-time agroforestry faculty member.

Among the constraints expressed by MOSCAT in the implementation of agroforestry education programme are:

- a shortage of suitable textbooks for instruction
- the low number of academic staff involved in the teaching of agroforestry courses
- limited financial resources to support academic instruction and facilities as well
- the uncertain job market for graduates.

### **Dingle Agricultural and Technical College (DATEC)**

*Jacinto M Osano*

Dingle Agricultural and Technical College (DATEC) is one of the four schools in Western Visayas offering a BS Agriculture major in Agroforestry. The College Department handles the programme, which began in the 1995–96 academic year with the assistance of the Department of Environment and Natural Resources-Ecosystems Research and Development Services (DENR-ERDS) in Region VI — western Visayas region. The agroforestry curriculum focuses on the entrepreneurial skills development of the students. As such, major students are required to devote at least  $\frac{1}{4}$  hectare of their farm for agroforestry development. A total of 33 units major courses in agroforestry are likewise required of the students.



In addition to the four regular faculty members, there are part-time instructors from DENR-ERDS. The regular instructors are sent to various training courses in agroforestry as part of staff development.

DATEC maintains a 40.6 ha experimental farm as a demonstration area for instruction, research, extension and production components. The 853 ha Bulabog Putian National Park being maintained by the DENR, as well as by the Taminla Bamboo and Rattan Growers' Association in a nearby town, is also being used in the laboratory classes.

### **Benguet State University (BSU)**

*Sonwright B Maddul and Feliciano G Calora Jr*

Three curricular programmes are available at Benguet State University (BSU), handled by the College of Agriculture and College of Forestry. These programmes are:

- Diploma in Agroforestry, a two-year undergraduate programme which was implemented in 1981 under the Special Agroforestry Project. Presently, this programme is being handled by the College of Agriculture
- BS Agriculture major in Agroforestry, a four-year program, implemented in 1993 by the College of Agriculture
- BS Forestry major in Agroforestry (started in 1996) being offered by the College of Forestry, under the Department of Silviculture and Forest Influences.

A total of 29 full-time and part-time faculty staff from the Colleges of Agriculture, Forestry, Engineering and Applied Technology, and Home Economics and Technology are involved in offering these programmes. A team teaching approach is practised in the integrative and technical courses.

For the last three years, BSU has produced 127 graduates from the three agroforestry programmes. These graduates are either self-employed, or work in non-government organizations as project evaluators and community organizers; local government units; the Department of Environment and Natural Resources; and in public schools as teachers at secondary and tertiary levels.

### **University of the Philippines Los Baños (UPLB)**

*Nestor R Lawas*

The College of Agriculture and the College of Forestry of UPLB are actively involved in the implementation of the Agroforestry Programme of the University. These two colleges jointly implement the Postgraduate Diploma in Agroforestry, a one-year programme designed to train a cadre of well-rounded and highly motivated development workers to facilitate promotion of agroforestry in community-based and people-oriented projects.

In the undergraduate program, the College of Forestry started offering a BS Forestry major in Silviculture and Agroforestry in 1994. The College of Agriculture also integrates agroforestry concepts in the foundation and major courses in the three areas of specialization: agronomy, horticulture and soil science. In the 1997 revised BSA curriculum, there are five options for majoring: a thesis, farm practice, community and extension internship, research internship, and teaching internship. In any of these, agroforestry can be the focus of study in line with the major field of the students.

The UPLB Agroforestry Programme (UAP), established in 1991, regularly offers short-term training courses in agroforestry:

- agroforestry project planning and management (1 week)
- seed technology and nursery management (2 weeks)
- integrated pest management (IPM) for agroforest farms (1 week)
- soil and water conservation and management (2 weeks)
- technology verification through on-farm trials (1 week)
- agroforestry production and post-production systems (3 weeks)

In addition, UAP facilitates agroforestry curriculum development, develops and conducts agroforestry-related research studies, and implements extension programmes for rural development. A 3.8 ha learning laboratory for agroforestry is being maintained to support these three activities. The learning laboratory showcases the different agroforestry systems and techniques.

## Thailand

### **Faculty of Forestry, Kasetsart University**

*Monton Jamroenprucksa*

The only professional forestry school in Thailand, the Faculty of Forestry at Kasetsart University offers three forestry majors: forest resources, forest products and social forestry. The last-mentioned of these was established in 1984, responding to changing needs in the forestry sector in Thailand. There is also an interdisciplinary programme in forest management and since 1992 there has been a doctorate programme.

Agroforestry was introduced in silviculture in 1981, and in 1984 it moved under the umbrella of social forestry. There are four different agroforestry courses in the four-year BSc curriculum: principles of agroforestry (two credits); agricultural components of agroforestry (three); applied agroforestry (three) and management of agroforestry (two). In addition, short courses are offered occasionally. Ten teachers, most of them part time, from three departments teach the different courses. Staff from the Faculty of Agriculture are also involved.

Over one hundred students graduate each year, most of whom have taken at least one agroforestry course.

The lack of availability of text books in agroforestry is a constraint (few books are officially accepted by the Faculty). Books available are mostly in English — few are in Thai. The development of up-to-date text books is needed for teaching.

The Faculty of Forestry has two research programmes, each of five years duration: ‘integrated agroforestry systems’ and ‘an agroforestry model for pulp production’. The former aims at developing knowledge of agroforestry systems at watershed level. The latter proposes alternative ways of rehabilitating degraded forest land through farmer participation.

## **Prince of Songkla University**

*Pramoth Kheowvongsri*

Agroforestry, a recent addition to the curriculum at Prince of Songkla University, began in the Faculty of Natural Resources in 1996. Among the reasons for its introduction was that agroforestry is useful in solving current problems in resource use and management. The three-credit course 'principles of agroforestry' is an elective course in the MSc Soil Resource Management. It is administered by the Department of Earth Science.

The curriculum was developed in consultation with national and international expertise. Agroforestry was introduced in the curriculum to reclaim degraded soil resources, develop sustainable productive land for farmers, increase agricultural production, help poor farmers, and conserve natural resources and environment.

One full-time and one part-time lecturer teach the agroforestry course. There is also an initiative to establish an agroforestry group with members from several departments of the University. Prince of Songkla University is involved in research on smallholder rubber agroforestry systems, and a collaborative study on agroecosystems and tropical rain forest for sustainable development in Yunnan Province, China and in Southern Thailand.

Among the resources for teaching, library resources in agroforestry are deficient.

## **Faculty of Agriculture, Chiang Mai University**

*A Kaosa-ard and T Saowaphak*

Social forestry subjects have long been taught at the Chiang Mai University. Areas of interest include shifting cultivation, forest and rural participation, soil and water conservation, watershed and community development, and fast growing tree species. The Faculties of Social Science and Agriculture are involved in social forestry units. The establishment of a Department of Forest Resources has strengthened the social forestry education.

Various subjects related to agroforestry are taught in several departments of the faculty, at both BSc and MSc levels. A full course in agroforestry is not yet offered.

The Department of Forest Resources recently initiated undergraduate and postgraduate courses on sustainable fbeing developed for community forestry at both Bachelor and Master levels.

The Multiple Cropping Centre has also proposed a new international programme in agricultural and agroforestry systems, but the programme has not been approved. Lack of research and teaching staff at international standard level is one of the reasons.

A number of theses oriented towards agroforestry have been written at Chiang Mai University.

## **Khon Kaen University**

*Patma Vityakon*

Agroforestry is relatively recent at Khon Kean University. It was developed in 1995 as a postgraduate elective course in the new Masters programme in agricultural resources and environment. Before 1995, agroforestry was covered in courses such as forest soils.

One important factor that triggered this development was the interest among staff members in agroforestry research and development. The Department of Soil Science and the four departments. There are as yet only few students in the programme, but a majority take the agroforestry elective course.

Among the institutional development needs at Khon Kaen University (for agroforestry education) are staff recruitment in forestry and agroforestry; staff development; and development of an agroforestry curriculum at both graduate and undergraduate levels (there are plans to develop a full option in agroforestry in the Masters programme in agricultural resources and environment).

Khon Kaen University has a wide range of national and international collaborators in agroforestry education and research.

## **Vietnam**

### **College of Agriculture and Forestry, National University of Hochiminh City**

*Nguyen Van So*

Located in Thuduc District, Hochiminh City, the College of Agriculture and Forestry, National University of Hochiminh City, offers a range of BSc and graduate programmes in natural resources sciences. The College faculty members number 350, and about 3500 students are enrolled.

There is no separate BSc or MSc curriculum in agroforestry, but agroforestry concepts are integrated in many courses. There are three courses in agroforestry in the BSc programmes in forestry and in agriculture. At MSc level the university offers two courses in agroforestry, each of three units. The University offers short courses in agroforestry, upland agriculture and participatory rural appraisal (PRA). Responding to development needs of the uplands, the University created a Department of Community Forestry in 1992. This added capacity to agroforestry-related teaching.

The faculty has 17 staff members involved in agroforestry teaching. However, there is a need for stronger expertise in social sciences. Institutional links exist with the International Development Research Centre (IDRC), Ford Foundation, FAO, SFSP and others.

Regarding institutional development for agroforestry teaching, the College expressed the following needs:

- staff updating in agroforestry skills and academic levels
- communicative networking and library and reading room development (there are not enough books and magazines for teachers and students, particularly in Vietnamese)
- improvement in teaching and research facilities
- research and case studies in Vietnam.

## **Forestry College of Vietnam, Wuan Mai-Hatay**

*Phan Xuan Hoan*

The Forestry College of Vietnam introduced agroforestry as a subject in 1992. Before that, agroforestry was taught as part of silviculture.

Under the Silviculture Faculty, agroforestry is a compulsory subject in three programmes: silviculture (45 hours), forestry business management (30 hours), and social forestry (45 hours). The same curriculum is used for these agroforestry courses. Students' practice in agroforestry is arranged in combination with other courses.

Short courses in the College also address agroforestry-related topics, such as household and village planning for forestry and agroforestry development, sloping land agriculture technology, farm resources management, and farm management.

Four faculty members teach agroforestry. The college wishes to develop the human resources in an interdisciplinary direction in agroforestry, and there is a demand for MSc and PhD courses.

The College collaborates with several other forestry universities in Vietnam, and has international links through SUCOF — Support to Community Oriented Further Training in Forestry (Finland) and SFSP (Switzerland).

To develop agroforestry education the following needs of the College were expressed:

- cooperation with agroforestry research and education institutions inside and outside the country, in order to upgrade the quality of training
- establishment of demonstration sites in agroforestry, and improved laboratories and other supportive facilities
- integration of agroforestry into related subjects in the training programme of the college
- improvement of the deficient teaching and extension materials
- implementation of plans to develop agroforestry curricula at undergraduate and postgraduate levels in the coming five years.

## **The College of Agriculture and Forestry, Thai Nguyen**

*Ly Van Trong*

The College of Agriculture and Forestry, Thai Nguyen, was established in 1970, particularly targeting 13 mountainous provinces in Northern Vietnam. Departments include forestry, animal husbandry and crop production.

Gradually, agroforestry has been introduced in the teaching, responding to the need for integrated rural development. However, there is no special agroforestry course: agroforestry is a unit of 30–45 hours within silviculture. In similar ways, agroforestry features in BSc programmes for crops, and animal husbandry. Further, the College offers several agroforestry-related short courses, e.g. sloping agriculture land technology (SALT), home garden, fishpond, and livestock farming systems. Seventeen faculty members of different disciplines teach agroforestry.

Regarding facilities for agroforestry teaching, the library resources are poor, and books are not updated. There are laboratory facilities for soil, tissues culture, forest seeds, and others. Several agroforestry techniques are demonstrated at campus and outside the College.

## **Vietnam Agricultural Science Institute**

*Ha Dinh Tuan*

The Vietnam Agricultural Science Institute (VASI), founded in 1952, has a wide mandate:

- to serve as national centre for crop and animal rural development programmes, especially rice, legumes, root and tuber plants and domestic animals
- to coordinate the national plant genetic resources network
- to assist in developing short and long-term strategies and farming systems for sustainable agricultural production in various agroecosystems in the country
- to assist in development and transfer of advanced technology to farmers
- to offer postgraduate training for Masters and PhD degrees, and organize short-term refresher course certificate training.

The Institute was given a mandate for postgraduate training — MSc and PhD — in 1979 (when agroforestry education started). There is a separate department for postgraduate training. This was when. Gradually it has developed to a compulsory subject. There are also several other courses touching on agroforestry, including short-term courses. VASI has recently published a textbook on agroforestry.

Not having permanent staff, the department invites teachers and experts from other institutions and universities.

Regarding institutional development needs, the most urgent one is to improve teaching and learning conditions. This includes: audio/video facilities, a vehicle for field trips, field equipment, special training for teachers, provision of teaching materials, and exchange of curricula and information.

## Appendix 3. Agroforestry education and training at the national level

### Indonesia

Table 3. Summary of group work — national level, Indonesia

Concerns	Summary of ongoing activities — current situation	Lessons learned	Needs and issues	Areas for potential collaboration	Facilitating factors	Constraining factors
<b>Agroforestry curricula</b>	<ul style="list-style-type: none"> <li>not a study program, only an elective</li> </ul>	<ul style="list-style-type: none"> <li>based on students' personal interest</li> </ul>	<ul style="list-style-type: none"> <li>standard course contents at undergraduate level</li> </ul>	<ul style="list-style-type: none"> <li>developing standard AF curricula</li> </ul>	<ul style="list-style-type: none"> <li>availability of academic facilities</li> </ul>	<ul style="list-style-type: none"> <li>strict education regulation</li> </ul>
<b>Faculty and teaching staff</b>	<ul style="list-style-type: none"> <li>composition: PhD - 30% MSc - 60% BSc - 10%</li> <li>from various departments</li> </ul>	<ul style="list-style-type: none"> <li>staff exchange between departments within university and inter-university</li> </ul>	<ul style="list-style-type: none"> <li>staff development (50% PhD)</li> <li>staff recruitment</li> </ul>	<ul style="list-style-type: none"> <li>staff exchange between universities</li> <li>teaching staff apprenticeship</li> </ul>	<ul style="list-style-type: none"> <li>sufficient quality and quantity of teaching staff</li> </ul>	<ul style="list-style-type: none"> <li>not evenly distributed among universities</li> </ul>
<b>Physical facilities</b>	<ul style="list-style-type: none"> <li>overloaded</li> </ul>		<ul style="list-style-type: none"> <li>additional physical facilities are still required</li> <li>maintenance</li> </ul>	<ul style="list-style-type: none"> <li>utilization of physical facilities inter-faculty and inter-university</li> </ul>	<ul style="list-style-type: none"> <li>possibility of increasing efficiency</li> </ul>	<ul style="list-style-type: none"> <li>limited budget</li> </ul>
<b>Students</b>	<ul style="list-style-type: none"> <li>50 to 100 students per university per year (10% minor in agroforestry)</li> </ul>		<ul style="list-style-type: none"> <li>offering of agroforestry programme to the students</li> </ul>	<ul style="list-style-type: none"> <li>student exchange program</li> <li>MOU with potential stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>scholarship</li> <li>availability of supporting funds for students from existing research programmes</li> </ul>	<ul style="list-style-type: none"> <li>lack of information</li> </ul>
<b>Graduates</b>	<ul style="list-style-type: none"> <li>number of graduates: 5–10 per year based on their thesis topics</li> </ul>	<ul style="list-style-type: none"> <li>job opportunity not clear</li> <li>number of graduates &gt; market (of non-AF study programmes)</li> </ul>	<ul style="list-style-type: none"> <li>no guarantee of jobs for graduates with a minor in agroforestry (AF is new job)</li> </ul>	<ul style="list-style-type: none"> <li>MOU with stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>broader spectrum of skills</li> </ul>	<ul style="list-style-type: none"> <li>a relatively new discipline, not widely known to the public</li> </ul>
<b>Research programmes</b>	<ul style="list-style-type: none"> <li>action research programme in social forestry, e.g. forest state company, Ford Foundation</li> </ul>	<ul style="list-style-type: none"> <li>stimulating research for staff</li> </ul>	<ul style="list-style-type: none"> <li>continuous structural research program</li> </ul>	<ul style="list-style-type: none"> <li>funds, services and network</li> </ul>	<ul style="list-style-type: none"> <li>availability of researches in terms of quality and quantity</li> </ul>	<ul style="list-style-type: none"> <li>lack of opportunity and/or procedures too complex</li> </ul>

Table 3. Summary of group work—national level, Indonesia, continued

Concerns	Summary of ongoing activities — current situation	Lessons learned	Needs and issues	Areas for potential collaboration	Facilitating factors	Constraining factors
<b>Extension programmes</b>	<ul style="list-style-type: none"> <li>▪ pilot projects</li> <li>▪ training (village development forest programme)</li> </ul>	<ul style="list-style-type: none"> <li>▪ feedback to university</li> <li>▪ involve academic community</li> </ul>	<ul style="list-style-type: none"> <li>▪ training of trainers</li> <li>▪ action programme for farmers</li> </ul>	<ul style="list-style-type: none"> <li>▪ joint work with farmers, NGOs and job providers</li> </ul>	<ul style="list-style-type: none"> <li>▪ institution for extension service is available</li> </ul>	<ul style="list-style-type: none"> <li>▪ insufficient budget</li> </ul>
<b>Administration and policy</b>	<ul style="list-style-type: none"> <li>▪ national curricula for BS degree of agricultural sciences based on MOED decree</li> </ul>	<ul style="list-style-type: none"> <li>▪ AF programme at BS level is not possible at present</li> </ul>	<ul style="list-style-type: none"> <li>▪ establish agroforestry programme at graduate levels</li> </ul>	<ul style="list-style-type: none"> <li>▪ accreditation of certificate by Ministry of Education and Culture</li> </ul>	<ul style="list-style-type: none"> <li>▪ freely autonomous for construction of new agroforestry at graduate level</li> </ul>	<ul style="list-style-type: none"> <li>▪ complexity of procedure</li> </ul>
<b>Institutional links</b>	<ul style="list-style-type: none"> <li>▪ inter-university</li> <li>▪ international agencies</li> </ul>		<ul style="list-style-type: none"> <li>▪ strengthen the existing collaboration through win-win relationship</li> </ul>	<ul style="list-style-type: none"> <li>▪ training</li> <li>▪ staff improvement</li> <li>▪ providing physical facilities</li> </ul>	<ul style="list-style-type: none"> <li>▪ increase of international interest</li> </ul>	<ul style="list-style-type: none"> <li>▪ lack of information</li> <li>▪ limited budget</li> </ul>



## Lao PDR

Table 4. Summary of group work — national level, Lao PDR

Concerns	Summary of ongoing activities and current situation	Lessons learned (country level synthesis)	Needs and issues	Areas for potential collaboration	Facilitating factors	Constraining factors
<b>Agroforestry curricula</b>	<ul style="list-style-type: none"> <li>non-degree level</li> <li>BAgr, BF</li> <li>MLC not offered</li> <li>training of farmers</li> <li>NGOs — training farmers of sustainable agriculture</li> </ul>	<ul style="list-style-type: none"> <li>MSc level wanted</li> </ul>	<ul style="list-style-type: none"> <li>offer for MCL</li> <li>train formers for agroforestry</li> </ul>	<ul style="list-style-type: none"> <li>MJU, KKU, KU, VN, UPLB</li> </ul>	<ul style="list-style-type: none"> <li>funds (national organizations)</li> <li>education programme development</li> </ul>	<ul style="list-style-type: none"> <li>translation of books not enough</li> </ul>
<b>Faculty and teaching staff</b>	<ul style="list-style-type: none"> <li>2 PhD</li> <li>18 MSc</li> <li>21 BSc, BAgr</li> <li>13 Diploma</li> <li>8 MLC</li> </ul>	<ul style="list-style-type: none"> <li>not enough teaching staff</li> </ul>	<ul style="list-style-type: none"> <li>upgrade skill</li> <li>upgrade language</li> </ul>	<ul style="list-style-type: none"> <li>a broad study in the country</li> </ul>	<ul style="list-style-type: none"> <li>national organizations</li> <li>human resources</li> </ul>	<ul style="list-style-type: none"> <li>study level</li> <li>lack of English skills</li> </ul>
<b>Physical facilities</b>	<ul style="list-style-type: none"> <li>library, books, classroom</li> <li>nursery</li> </ul>	<ul style="list-style-type: none"> <li>increase books and manuals</li> </ul>	<ul style="list-style-type: none"> <li>lab, computer, video</li> <li>more books</li> <li>set up new institutions</li> </ul>	<ul style="list-style-type: none"> <li>improve library, accommodation</li> </ul>	<ul style="list-style-type: none"> <li>library, lab</li> </ul>	<ul style="list-style-type: none"> <li>funds for construction of buildings</li> </ul>
<b>Students</b>	<ul style="list-style-type: none"> <li>227 BAgr</li> <li>328 BF</li> <li>0 MLC (province)</li> <li>0 BSc</li> </ul>	<ul style="list-style-type: none"> <li>not enough people and specialists</li> <li>lack of basic science</li> </ul>	<ul style="list-style-type: none"> <li>strong basics</li> </ul>	<ul style="list-style-type: none"> <li>go to provinces</li> </ul>		<ul style="list-style-type: none"> <li>develop student basics</li> </ul>
<b>Graduates</b>	<ul style="list-style-type: none"> <li>more graduates</li> </ul>	<ul style="list-style-type: none"> <li>many jobs</li> </ul>	<ul style="list-style-type: none"> <li>increase number of graduates</li> </ul>		<ul style="list-style-type: none"> <li>50% government jobs</li> </ul>	<ul style="list-style-type: none"> <li>lack of jobs</li> </ul>
<b>Research programmes</b>	<ul style="list-style-type: none"> <li>project proposal prepared</li> <li>no on-going research</li> <li>animal science, plant science, forestry</li> <li>NARC</li> </ul>	<ul style="list-style-type: none"> <li>lack of experience</li> </ul>	<ul style="list-style-type: none"> <li>training</li> <li>researchers</li> <li>funds</li> </ul>	<ul style="list-style-type: none"> <li>broad in-country collaboration</li> </ul>	<ul style="list-style-type: none"> <li>presence of agroforestry curricula</li> </ul>	<ul style="list-style-type: none"> <li>lack of developed research programmes</li> </ul>
<b>Extension programmes</b>	<ul style="list-style-type: none"> <li>belong to MAF</li> </ul>		<ul style="list-style-type: none"> <li>train farmers (MAF)</li> </ul>	<ul style="list-style-type: none"> <li>forest management</li> <li>forest conservation</li> </ul>	<ul style="list-style-type: none"> <li>national organization</li> <li>government policy</li> </ul>	
<b>Administration and policy</b>	<ul style="list-style-type: none"> <li>centre in Vientiane</li> </ul>		<ul style="list-style-type: none"> <li>go to provinces</li> </ul>	<ul style="list-style-type: none"> <li>belong to provinces</li> </ul>	<ul style="list-style-type: none"> <li>support by national organizations</li> </ul>	
<b>Institutional links</b>	<ul style="list-style-type: none"> <li>GTZ, CCL, SEARCA, SIDA, NGOs, JICA, JVC)</li> <li>MJU, KU, KKU, UPLB</li> </ul>	<ul style="list-style-type: none"> <li>more links and support wanted</li> </ul>	<ul style="list-style-type: none"> <li>need for more organizations support</li> </ul>	<ul style="list-style-type: none"> <li>every organization, policy</li> </ul>		

## The Philippines

Table 5. Summary of group work — national level, the Philippines

Concerns	Summary of ongoing activities and current situation	Lessons learned	Needs and issues	Areas for potential collaboration	Facilitating factors	Constraining factors
<b>Agroforestry curricula</b>	<ul style="list-style-type: none"> <li>24 schools are currently engaged in various agroforestry education programmes</li> <li>postsecondary Diploma in agroforestry (5 schools)</li> <li>BS agroforestry (7 schools)</li> <li>BSA major in agroforestry (9 schools)</li> <li>BSF major in agroforestry (7 schools)</li> <li>Bachelor in AF entrepreneurship (1)</li> <li>Bachelor in AF technology (1)</li> <li>postbaccalaureate Diploma in AF (1)</li> <li>MS agroforestry (2)</li> </ul>	<ul style="list-style-type: none"> <li>bias of the curriculum depending on the implementing unit or department</li> <li>use of DACUM process is effective with complementary supply and demand analysis</li> <li>importance of collaboration among different agencies and departments</li> <li>agroforestry should be recognized as an interdisciplinary curriculum</li> <li>technical courses should be modified based on the needs of the students</li> </ul>	<ul style="list-style-type: none"> <li>recognize agroforestry as a profession</li> <li>relevance of the curriculum to the market demands</li> </ul>	<ul style="list-style-type: none"> <li>setting of standards among the institutions involved in the network</li> <li>move for professionalization</li> <li>development of a committee on agroforestry under the TPAAE</li> </ul>	<ul style="list-style-type: none"> <li>formalization of the network</li> <li>more committed faculty and staff</li> <li>sustained demand for agroforestry and agroforesters</li> </ul>	<ul style="list-style-type: none"> <li>turf issues</li> <li>long process of curriculum development and approval in most institutions</li> </ul>
<b>Faculty and teaching staff</b>	<ul style="list-style-type: none"> <li>status of teaching staff</li> <li>substitute</li> <li>part-time (internal)</li> <li>part-time (external)</li> <li>full-time</li> </ul>	<ul style="list-style-type: none"> <li>teaching staff can be tapped among the different departments of the university and other agencies</li> <li>reorientation of the faculty</li> </ul>	<ul style="list-style-type: none"> <li>inadequate number of faculty members to teach agroforestry courses</li> </ul>	<ul style="list-style-type: none"> <li>exchange of faculty and staff development</li> <li>collaborative training programmes</li> </ul>	<ul style="list-style-type: none"> <li>funds and resources</li> <li>commitment</li> </ul>	<ul style="list-style-type: none"> <li>lack of, or inadequate resources</li> </ul>

Table 5. Summary of group work — national level, the Philippines, continued

Concerns	Summary of ongoing activities and current situation	Lessons learned	Needs and issues	Areas for potential collaboration	Facilitating factors	Constraining factors
<b>Physical facilities</b>	<ul style="list-style-type: none"> <li>demonstration sites (on- and off-farm)</li> <li>library materials</li> </ul>	<ul style="list-style-type: none"> <li>improve acquisition of library materials</li> <li>improve publication of research results</li> <li>establishment of more agroforestry sites to demonstrate varied situations</li> <li>due to limited demo sites, farmers are saturated with agroforestry students</li> </ul>	<ul style="list-style-type: none"> <li>need for communities as laboratory areas and sites</li> <li>monitoring system to determine the effectiveness of interventions</li> <li>establishment of more demonstration areas and sites</li> <li>limited access to communication technology</li> </ul>	<ul style="list-style-type: none"> <li>identification of sites for practicum areas within the network</li> <li>identification of satellite areas for the network</li> <li>establishment of common sites within the network</li> </ul>	<ul style="list-style-type: none"> <li>formation of formal network</li> </ul>	<ul style="list-style-type: none"> <li>geographic location</li> </ul>
<b>Students</b>	<ul style="list-style-type: none"> <li>growing interest in agroforestry among students</li> <li>limited admission due to limited number of faculty</li> <li>for some schools, the number of students decreases due to the offering of new programmes</li> </ul>	<ul style="list-style-type: none"> <li>improve and promote student recruitment for agroforestry</li> <li>upgrade the agroforestry curriculum</li> </ul>	<ul style="list-style-type: none"> <li>student recruitment, admission and retention</li> <li>effective guidance scheme</li> <li>scholarships, grants and student loan fund</li> </ul>	<ul style="list-style-type: none"> <li>promote agroforestry curricula in communities (high schools)</li> <li>career orientations</li> </ul>	<ul style="list-style-type: none"> <li>students' interest in agroforestry</li> <li>strength of the curriculum and faculty</li> <li>employment</li> <li>adequate facilities</li> <li>support facilities</li> </ul>	<ul style="list-style-type: none"> <li>limited number due to the inadequate number of faculty</li> <li>tendency of students to be attracted to new curricular programmes</li> </ul>
<b>Graduates</b>	<ul style="list-style-type: none"> <li>self-employment for new graduates but still looking for government employment</li> </ul>	<ul style="list-style-type: none"> <li>employment is the sustainable objective of the curriculum</li> </ul>	<ul style="list-style-type: none"> <li>marketability of graduates</li> <li>tracer study for agroforestry graduates</li> <li>professionalization of agroforestry</li> </ul>	<ul style="list-style-type: none"> <li>job posting</li> <li>awareness campaign among prospective employers of agroforestry</li> <li>job fair</li> </ul>	<ul style="list-style-type: none"> <li>strong agroforestry programme and institution</li> <li>tie-up with prospective employment through agroforestry program</li> </ul>	<ul style="list-style-type: none"> <li>career paths in government agencies (DA and DENR)</li> </ul>
<b>Research programmes</b>	<ul style="list-style-type: none"> <li>individual faculty researchers?</li> </ul>	<ul style="list-style-type: none"> <li>difficulty in seeking funds for research</li> <li>tailor research proposals for funding agency</li> </ul>	<ul style="list-style-type: none"> <li>monitoring systems</li> <li>selection of demo sites</li> <li>funding of research</li> </ul>	<ul style="list-style-type: none"> <li>collaborative research within and outside the national network</li> <li>sharing of facilities and resources</li> </ul>	<ul style="list-style-type: none"> <li>availability and access to the existing facilities and resources</li> </ul>	<ul style="list-style-type: none"> <li>no funding agency</li> <li>limited amount</li> </ul>

Table 5. Summary of group work — national level, the Philippines, continued

Concerns	Summary of ongoing activities and current situation	Lessons learned	Needs and issues	Areas for potential collaboration	Facilitating factors	Constraining factors
<b>Extension programmes</b>	<ul style="list-style-type: none"> <li>▪ adoption among communities and schools of agriculture and forestry sites</li> <li>▪ sending of experts to the sites</li> </ul>	<ul style="list-style-type: none"> <li>▪ ease in the dissemination of university programmes and technology</li> </ul>	<ul style="list-style-type: none"> <li>▪ monitoring systems</li> <li>▪ selection of demo sites</li> </ul>	<ul style="list-style-type: none"> <li>▪ community development program</li> </ul>	<ul style="list-style-type: none"> <li>▪ social acceptability in the selected sites</li> </ul>	<ul style="list-style-type: none"> <li>▪ distance</li> <li>▪ accessibility</li> </ul>
<b>Administration and policy</b>	<ul style="list-style-type: none"> <li>▪ two curricular committees from agriculture and forestry</li> <li>▪ management committee from different units</li> </ul>	<ul style="list-style-type: none"> <li>▪ collaboration among the units</li> <li>▪ ground working before formal institution of the programmes</li> </ul>	<ul style="list-style-type: none"> <li>▪ administration of the programme</li> <li>▪ agroforestry as a discipline or a tool</li> </ul>	<ul style="list-style-type: none"> <li>▪ networking (local networks)</li> <li>▪ workshop</li> </ul>	<ul style="list-style-type: none"> <li>▪ agroforestry network</li> <li>▪ exchange of ideas</li> </ul>	<ul style="list-style-type: none"> <li>▪ many still think of agroforestry as a tool</li> <li>▪ ad hoc measure in rehabilitation of the degraded lands</li> </ul>
<b>Institutional links</b>	<ul style="list-style-type: none"> <li>▪ formal and informal links with communities, NGOs and institutions</li> </ul>	<ul style="list-style-type: none"> <li>▪ sustainability of linkage</li> <li>▪ resource optimization</li> </ul>	<ul style="list-style-type: none"> <li>▪ improvement and expansion of existing network</li> <li>▪ formalize PAFERN</li> </ul>	<ul style="list-style-type: none"> <li>▪ curriculum, research and extension</li> </ul>	<ul style="list-style-type: none"> <li>▪ institutional capacity</li> <li>▪ networking and collaboration</li> </ul>	<ul style="list-style-type: none"> <li>▪ limited financial resources</li> <li>▪ different levels of capabilities</li> </ul>

## Thailand

Table 6. Summary of group work — national level, Thailand

Concerns	Summary of ongoing activities and current situation	Lessons learned	Needs and issues	Area for potential collaboration	Facilitating factors	Constraining factors
<b>Agroforestry curricula</b>	Offered as courses in universities and faculties: <ul style="list-style-type: none"> <li>▪ social forestry (KU)</li> <li>▪ forestry resource management, and soil science (land resources and environment) (KKU)</li> <li>▪ earth science (PSU)</li> <li>▪ under development: in forest resources curriculum in CMU</li> </ul>	Common goals: <ul style="list-style-type: none"> <li>▪ promoting sustainable agricultural systems for conservation of natural resources and environment</li> <li>▪ process of curriculum development</li> <li>▪ too many steps before gaining approval</li> </ul>	<ul style="list-style-type: none"> <li>▪ networking</li> <li>▪ educational material</li> </ul>	<ul style="list-style-type: none"> <li>▪ silviculture</li> <li>▪ all agriculture field</li> </ul>	<ul style="list-style-type: none"> <li>▪ workshop</li> <li>▪ favourable administrator</li> <li>▪ experienced staff</li> <li>▪ public hearing</li> </ul>	<ul style="list-style-type: none"> <li>▪ bureaucracy</li> </ul>
<b>Faculty and teaching staff</b>	<ul style="list-style-type: none"> <li>▪ mostly from different departments of the same faculty</li> <li>▪ KU (9), KKU (6), PSU (3), CMU (0)</li> </ul>	<ul style="list-style-type: none"> <li>▪ inadequate coordination between teaching staff of AF courses</li> </ul>	<ul style="list-style-type: none"> <li>▪ number increased</li> <li>▪ training</li> <li>▪ more coordination among teaching staff</li> <li>▪ exchange of teaching staff among university</li> </ul>	<ul style="list-style-type: none"> <li>▪ staff training within university and inter-university</li> </ul>	<ul style="list-style-type: none"> <li>▪ scholarship for further studies</li> <li>▪ strengthening understanding among staff</li> <li>▪ knowledge transfer and exchange among staff</li> <li>▪ formal officiation of responsible staff</li> <li>▪ academic incentive, e.g. academic position</li> </ul>	<ul style="list-style-type: none"> <li>▪ lack of scholarships for studies, training, and funding for research</li> <li>▪ unfair competition for research funding</li> <li>▪ continuous rejections of opinions and proposals</li> <li>▪ too much workload</li> </ul>
<b>Physical facilities</b>	<ul style="list-style-type: none"> <li>▪ relevant books, journals in Thai and English</li> <li>▪ Internet facilities are available</li> </ul>	<ul style="list-style-type: none"> <li>▪ lot of knowledge derived from demonstration plot</li> <li>▪ case studies and field research</li> </ul>	<ul style="list-style-type: none"> <li>▪ common room for discussion in AF</li> <li>▪ demonstration plot</li> <li>▪ library resources</li> </ul>	<ul style="list-style-type: none"> <li>▪ supply of extension and teaching materials</li> <li>▪ database development e.g. AF species</li> </ul>	<ul style="list-style-type: none"> <li>▪ experienced staff for making physical facilities e.g. computer and laboratory facilities</li> </ul>	<ul style="list-style-type: none"> <li>▪ maintenance</li> </ul>

Table 6. Summary of group work — national level, Thailand, continued

Concerns	Summary of ongoing activities and current situation	Lessons learned	Needs and issues	Area for potential collaboration	Facilitating factors	Constraining factors
<b>Students</b>	<ul style="list-style-type: none"> <li>students enroll in this subject if study plan is accepted</li> <li>number of student 109 (BSc) KU, 6 BSc (PSU), 5 (KKU)</li> </ul>		<ul style="list-style-type: none"> <li>job opportunities</li> <li>quality control</li> <li>exchange of students within university consortium system</li> </ul>	<ul style="list-style-type: none"> <li>student thesis and thesis committee</li> </ul>	<ul style="list-style-type: none"> <li>job opportunities</li> <li>personal interests</li> <li>public relations</li> </ul>	<ul style="list-style-type: none"> <li>schedule conflict</li> <li>prerequisites</li> <li>conservative teaching staff</li> <li>long time needed to complete study programmes</li> </ul>
<b>Graduates</b>	<ul style="list-style-type: none"> <li>73% of graduates passed AF subject</li> </ul>	<ul style="list-style-type: none"> <li>graduates may not get jobs in the field of AF</li> </ul>	<ul style="list-style-type: none"> <li>job opportunities</li> <li>follow-up training</li> </ul>	<ul style="list-style-type: none"> <li>seminar among potential government and NGOs</li> <li>MSc research programme (no course work)</li> </ul>	<ul style="list-style-type: none"> <li>quality control system for production of graduates</li> </ul>	
<b>Research programmes</b>	<ul style="list-style-type: none"> <li>number of research projects: 2 (PSU); 5 (KKU); 20 (KU)</li> </ul>	<ul style="list-style-type: none"> <li>most research is component-oriented, only some is of interdisciplinary nature</li> </ul>	<ul style="list-style-type: none"> <li>funding</li> <li>research to identify pertinent areas for research</li> </ul>	<ul style="list-style-type: none"> <li>seminar and workshop to identify research needs</li> </ul>	<ul style="list-style-type: none"> <li>budget</li> <li>staffs</li> </ul>	
<b>Extension programmes</b>	<ul style="list-style-type: none"> <li>seminars and training</li> </ul>		<ul style="list-style-type: none"> <li>participatory approach in training of forest officers and farmers</li> <li>transfer of technology through study tours</li> </ul>	<ul style="list-style-type: none"> <li>participatory training between officers and farmers and among school teachers</li> </ul>	<ul style="list-style-type: none"> <li>budget and resource persons</li> <li>training material</li> </ul>	<ul style="list-style-type: none"> <li>attitudes and perceptions of officers and farmers towards each other</li> </ul>
<b>Administration and policy</b>	<ul style="list-style-type: none"> <li>present 8<sup>th</sup> national socioeconomic development plan support AF</li> </ul>	<ul style="list-style-type: none"> <li>diversification of cropping system is needed</li> </ul>	<ul style="list-style-type: none"> <li>social forestry dept (KU)</li> <li>add AF component in environmental science curriculum of primary and secondary schools</li> </ul>	<ul style="list-style-type: none"> <li>AF conference between policy makers, administrators with academics in institutes of higher learning</li> </ul>	<ul style="list-style-type: none"> <li>public relations to member of parliament</li> <li>seminar and conferences</li> <li>international movement for AF promotion</li> </ul>	<ul style="list-style-type: none"> <li>unstable government, e.g. community forestry bill</li> </ul>
<b>Institutional links</b>	<ul style="list-style-type: none"> <li>Council of Deans in Agricultural and Environmental Sciences (CDAS) meet twice a year (15 members)</li> </ul>	<ul style="list-style-type: none"> <li>CDAS is a good channel for AF curriculum development</li> </ul>	<ul style="list-style-type: none"> <li>an AF association of academic institution, GOs, NGO agencies, farmer cooperatives</li> </ul>	<ul style="list-style-type: none"> <li>knowledge exchange</li> <li>marketing of products</li> </ul>	<ul style="list-style-type: none"> <li>authorized staff to take responsibility in linking with other institutions</li> </ul>	<ul style="list-style-type: none"> <li>lack of supporting staff</li> </ul>

## Vietnam

Table 7. Summary of group work — national level, Vietnam

Concerns	Summary of on-going activities and current situation	Lessons learned	Needs and issues	Areas for potential collaboration	Facilitating factors	Constraining factors
<b>Agroforestry curricula</b>	<ul style="list-style-type: none"> <li>agroforestry is considered as a subject in many disciplines (agronomy, forestry, animal husbandry, fisheries)</li> <li>more agroforestry courses in specialized fields, and current trend is major in AF and community forestry</li> </ul>	<ul style="list-style-type: none"> <li>networking</li> <li>links with government and NGOs, centres</li> <li>needs assessment</li> </ul>	<ul style="list-style-type: none"> <li>urgent need for AF and community forestry</li> <li>improve existing AF curriculum</li> </ul>	<ul style="list-style-type: none"> <li>exchange of teaching materials both in country and abroad</li> </ul>	<ul style="list-style-type: none"> <li>supportive policies</li> <li>international cooperation</li> <li>real needs</li> </ul>	<ul style="list-style-type: none"> <li>lack of experience</li> <li>lack of resources</li> </ul>
<b>Faculty and teaching staff</b>	<ul style="list-style-type: none"> <li>inadequate staff (in soil science)</li> <li>research, extension, teaching</li> <li>integration of BS, MS education</li> </ul>	<ul style="list-style-type: none"> <li>human resources development</li> <li>interdisciplinary group</li> <li>problem-centred approach</li> <li>community-based approach</li> </ul>	<ul style="list-style-type: none"> <li>upgrade the qualifications of the teaching staff</li> </ul>	<ul style="list-style-type: none"> <li>training courses for trainers to level the teaching skills</li> </ul>	<ul style="list-style-type: none"> <li>incentives</li> <li>international support</li> <li>national network</li> </ul>	<ul style="list-style-type: none"> <li>lack of background in social sciences, and of tools in rural development</li> <li>lack of suitable personnel management</li> </ul>
<b>Physical facilities</b>	<ul style="list-style-type: none"> <li>nurseries, demo sites, training and information centres</li> <li>case studies, reports, thesis, newsletters, magazines</li> </ul>	<ul style="list-style-type: none"> <li>equal investments in all aspects, channels</li> </ul>	<ul style="list-style-type: none"> <li>AFE supporting materials</li> <li>audio/video production and demo equipment</li> </ul>	<ul style="list-style-type: none"> <li>network participation</li> <li>organization of regional workshop</li> <li>establishment of demo sites</li> </ul>	<ul style="list-style-type: none"> <li>existing IKS, IKT</li> </ul>	<ul style="list-style-type: none"> <li>lack of facilities in transport, doing research, teaching, books, materials, etc. for AF and community forestry</li> </ul>
<b>Students</b>	<ul style="list-style-type: none"> <li>BS students: 50 ayear</li> <li>MSc: 20</li> <li>PhD: 10</li> <li>trainees: 100</li> </ul>	<ul style="list-style-type: none"> <li>less and less qualitative students</li> </ul>	<ul style="list-style-type: none"> <li>more incentive for increasing enrolment</li> <li>priority given to ethnic students</li> </ul>	<ul style="list-style-type: none"> <li>international study tour or graduate preparation practice through scholarship or student exchange</li> </ul>	<ul style="list-style-type: none"> <li>supportive policies to promote rural young people to enter AF units, with priority to tribal students</li> </ul>	<ul style="list-style-type: none"> <li>low job opportunity in civilized areas</li> <li>less incentive in earning agroforestry</li> </ul>
<b>Graduates</b>	<ul style="list-style-type: none"> <li>job opportunities</li> </ul>	<ul style="list-style-type: none"> <li>quality concern</li> <li>incentive to work in remote areas</li> </ul>	<ul style="list-style-type: none"> <li>refresher courses for ex-students</li> <li>more job opportunities</li> <li>priority in post-graduate training</li> </ul>	<ul style="list-style-type: none"> <li>continuing education particularly in foreign institutions like UPLB, CMU, KKY</li> </ul>	<ul style="list-style-type: none"> <li>potential employment in rural, remote areas and within different projects (national, international)</li> </ul>	<ul style="list-style-type: none"> <li>tendency to work in urban areas</li> <li>communication limits (English, dialects, etc.)</li> </ul>

Table 7. Summary of group work — national level, Vietnam, continued

Concerns	Summary of ongoing activities and current situation	Lessons learned	Needs and issues	Areas for potential collaboration	Facilitating factors	Constraining factors
<b>Research programmes</b>	<ul style="list-style-type: none"> <li>▪ farming systems research</li> <li>▪ extension system research</li> <li>▪ action research in agroforestry and community forestry</li> <li>▪ community-based approaches</li> </ul>	<ul style="list-style-type: none"> <li>▪ multilateral cooperation</li> <li>▪ linking-up</li> <li>▪ action research, on-farm</li> </ul>	<ul style="list-style-type: none"> <li>▪ land-use system to allocate lands</li> <li>▪ sand moving prevention</li> <li>▪ community-based development in the uplands</li> </ul>	<ul style="list-style-type: none"> <li>▪ SALT</li> <li>▪ integrated land-use planning at village and household levels</li> </ul>	<ul style="list-style-type: none"> <li>▪ many interesting issues, topics</li> </ul>	<ul style="list-style-type: none"> <li>▪ technical and financial support</li> <li>▪ methodology</li> <li>▪ reporting, evaluation</li> </ul>
<b>Extension programmes</b>	<ul style="list-style-type: none"> <li>▪ Helvetas project</li> <li>▪ soil and water conservation activities</li> <li>▪ technology transfer in agriculture</li> </ul>	<ul style="list-style-type: none"> <li>▪ farmer-to-farmer extension</li> <li>▪ bottom-up</li> <li>▪ holistic</li> </ul>	<ul style="list-style-type: none"> <li>▪ SAU (Sustainable Agriculture Uplands)</li> <li>▪ soil and water conservation</li> <li>▪ RVAC</li> </ul>	<ul style="list-style-type: none"> <li>▪ national policy; national fund</li> <li>▪ GOs, NGOs</li> <li>▪ community development in upland levels</li> </ul>	<ul style="list-style-type: none"> <li>▪ national extension systems</li> <li>▪ farmers' needs</li> <li>▪ farmers' awareness</li> </ul>	<ul style="list-style-type: none"> <li>▪ lack of experienced extension workers</li> </ul>
<b>Administration and policy</b>	<ul style="list-style-type: none"> <li>▪ FLAP</li> <li>▪ MO</li> <li>▪ forest rehabilitation</li> </ul>	<ul style="list-style-type: none"> <li>▪ gap reduction</li> </ul>	<ul style="list-style-type: none"> <li>▪ FLAP guidelines to apply in different situations</li> </ul>	<ul style="list-style-type: none"> <li>▪ national policy</li> <li>▪ exploit funding from international NGOs</li> </ul>	<ul style="list-style-type: none"> <li>▪ positive influence</li> </ul>	<ul style="list-style-type: none"> <li>▪ gaps among different levels</li> </ul>
<b>Institutional links</b>	<ul style="list-style-type: none"> <li>▪ network (national, regional, international)</li> </ul>	<ul style="list-style-type: none"> <li>▪ necessary</li> <li>▪ very informative</li> <li>▪ supportive</li> </ul>	<ul style="list-style-type: none"> <li>▪ e-mail system</li> <li>▪ staff exchange</li> <li>▪ more involvement in international and regional workshops</li> </ul>	<ul style="list-style-type: none"> <li>▪ necessary</li> <li>▪ very informative</li> <li>▪ supportive</li> </ul>	<ul style="list-style-type: none"> <li>▪ existing network</li> <li>▪ common language</li> <li>▪ MARD, international cooperation</li> </ul>	<ul style="list-style-type: none"> <li>▪ geographical distance</li> <li>▪ infrastructure</li> <li>▪ inadequate fund</li> </ul>
<b>Other aspects</b>	<ul style="list-style-type: none"> <li>▪ agroecological concerns in agroforestry and community forestry development</li> </ul>	<ul style="list-style-type: none"> <li>▪ sub-tropical</li> <li>▪ tropical</li> <li>▪ coastal, mid-low-high</li> </ul>				



## Appendix 4. List of participants

### Indonesia

**Ir. H Mahrus Aryadi**

Lecturer, Faculty of Forestry  
Universitas Lambung Mangkurat  
Jl. A. Yani, PO Box 19  
Banjarbaru 70714, South Kalimantan,  
Indonesia  
Tel: +62 511 92290  
Fax: +62 511 92290

**Dr Cecep Kusmana**

Chairman of Forest Management Department  
and Lecturer, Forest Ecology  
Institut Pertanian Bogor  
Kampus Darmaga, PO Box 168  
Bogor, Indonesia  
Tel: +62 251 621-244  
Fax: +62 251 621-244/621-256  
Email: <http://www.bogor.indo.net.id/fahutan>

**Dr Sambas Mochamad Sabarnurdin**

Dean, Faculty of Forestry  
Gadjah Mada University  
Bulaksumur  
Yogyakarta, Indonesia  
Tel: +62 274 901-420/512-102  
Fax: +62 274 901-420  
Email: [Fofgmu@ugmgtw.ugm.ac.id](mailto:Fofgmu@ugmgtw.ugm.ac.id)  
[fkt-ugm@indo.net.id](mailto:fkt-ugm@indo.net.id)

**Prof. Dr Riyanto Soedjalmo**

Vice Rector for Academic Affairs  
Kampus Universitas Mulawarman  
Gunung Kelua, Samarinda  
Kalimantan Timur, Indonesia  
Tel: +62 541 39885  
Fax: +62 541 39890/32870  
Email: [CFS@smd.mega.net.id](mailto:CFS@smd.mega.net.id)

**Mr Widiyanto**

Lecturer, Faculty of Agriculture  
Universitas Brawijaya  
Jurusan Tanah, Jl. Veteran  
Malang, Indonesia  
Tel: +62 341 553-623  
Fax: +62 341 564-333  
Email: [soilub@malang.wasantara.net.id](mailto:soilub@malang.wasantara.net.id)

### Lao PDR

**Mr Somphanh Pasouvang**

Lecturer, Faculty of Agriculture and Forestry and  
Head of Agriculture Construction Machinery  
National University of Laos  
PO Box 5653  
Vientiane, Lao PDR  
Tel: +856 21 512910  
Fax: +856 21 732097

**Mr Bounthanom Vannhounvong**

Lecturer, Faculty of Agriculture and Forestry  
Vientiane, Lao PDR  
National University of Laos  
Tel: +856 21 732097/416813  
Fax: +856 21 732097

### Malaysia

**Dr Kamis Awang**

Dean, Graduate School  
Universiti Putra Malaysia  
43400 UPM, Serdang  
Selangor, Malaysia  
Tel: +60 3 948-8313  
Fax: +60 3 943-2509  
Email: [kamis@admin.upm.edu.my](mailto:kamis@admin.upm.edu.my)

### The Philippines

**Dr Feliciano G Calora, Jr**

Dean, College of Forestry  
Benguet State University  
La Trinidad 2601  
Benguet, Philippines  
Tel: +63 74 422-2281  
Fax: +63 74 422-2403/536-3710  
Email: [bsu@slu.burgos.edu.ph](mailto:bsu@slu.burgos.edu.ph)

**Dr Romulo A del Castillo**

Professor, College of Forestry and Director, UPLB  
Agroforestry Program  
University of the Philippines Los Baños  
College 4031  
Laguna, Philippines  
Tel: +63 49 536-2657  
Fax: +63 49 536-3657  
Email: [radc@laguna.net](mailto:radc@laguna.net)

**Prof. Nestor R Lawas**

Associate Professor, College of Agriculture and  
Coordinator, Rural Development Services  
Division, UAP  
University of the Philippines Los Baños  
College 4031, Laguna, Philippines  
Tel: +63 49 536-2217  
Fax: +63 49 536-3657  
Email: uap@laguna.net

**Dr Sonwright B Maddul**

Dean and Professor, College of Agriculture  
Benguet State University  
La Trinidad  
Benguet, Philippines 2601  
Tel: +63 74 422-2027  
Fax: +63 74 422-2481  
Email: bsu@harrdec.burgos.edu.ph

**Dr Sinesio M Mariano**

Associate Professor, College of Forestry and  
Acting Coordinator, Agroforestry Education  
Development Division, UAP  
University of the Philippines Los Baños  
College 4031  
Laguna, Philippines  
Tel: (63-49) 536-2657 or 536-3657  
Fax: (63-49) 536-3657  
Email: uap@laguna.net

**Dr Juan A Nagtalon**

President  
Misamis Oriental State College of Agriculture  
and Technology  
Claveria 9004  
Misamis Oriental, Philippines  
Tel: +63 912 710-5324  
Fax: +63 912 710-5324

**Mr Jacinto M Osano**

Instructor and ASPECTS Agroforestry  
Development Facilitator  
Dingle Agricultural and Technical College  
Dingle, Iloilo, Philippines  
Tel: +63 918 761-4672/8361-222

**Thailand****Dr Monton Jamroenprucksa**

Assistant Dean for Research, Director of  
Forestry Research and Training and Chief of  
Agroforestry Research Station, Faculty of  
Forestry  
Kasetsart University  
Bangkok, Thailand  
Tel: +66 2 579-0171  
Fax: +66 2 561-4761  
Email: fformtj@nontri.ku.ac.th

**Dr Pramoth Kheowvongsri**

Lecturer, Earth Science Department  
Prince of Songkhla University  
Hat-Yai  
Songkhla 90110, Thailand  
Tel: +66 74 212-847  
Fax: +66 74 212-823  
Email: KPramoth@Ratri.PSU.ae.th

**Mr Teerapong Saowaphak**

Lecturer, Faculty of Agriculture  
Chiang Mai University  
Chiang Mai, Thailand 50200  
Tel: +66 53 944 098-9  
Fax: +66 53 225 221  
Email: agitswph@chiangmai.ac.th

**Dr Patma Vityakon**

Assistant Professor of Soil Science,  
Department of Soil Science  
Faculty of Agriculture  
Khon Kaen University  
Khon Kaen, 40002 Thailand  
Tel: +66 43 237-602  
Fax: +66 43 243-097/244474  
Email: patma@kku1.kku.ac.th

**Vietnam****Mr Nguyen Van So**

Senior Lecturer, Vice Dean, Faculty of Forestry  
College of Agriculture and Forestry  
Vietnam National University of HCM City  
Thu Duc District, Vietnam  
Tel: +84 8 896-3352/896-6946/896-1707  
Fax: +84 8 8960-713  
Tel: +84 6 2363 (house)  
Email: ngvanso@comfor.edu.vn

**Mr Pham Xuan Hoan**

Teacher-Silviculture Faculty  
Forestry College of Vietnam  
Xuan Mai  
Ha Tay, Vietnam  
Tel: +84 34 840-233  
Fax: +84 34 840-540  
Email: IN:FCV@org.Vn

**Dr Ly Van Trong**

Senior Lecturer and Head, Department of  
Social Forestry, College of Agriculture  
and Forestry  
Thai Nguyen University  
Thai Nguyen, Vietnam  
Tel: +84 280 851-427  
Fax: +84 280 852-921

**Mr Ha Dinh Tuan**

Senior Researcher  
Research Planning and International  
Cooperation Department, VASI and Secretary,  
APAN-Vietnam  
Vietnam Agricultural Science Institute  
Thanh Tri  
Hanoi, Vietnam  
Tel: +84 4 861-5556  
Fax: +84 4 861-3937  
E-mail: nghia@vasi.ac.vn  
Cirad-ca@netnam.org.vn

**FAO****Mr Patrick B Durst**

Regional Forestry Officer  
FAO Regional Office for Asia and the Pacific  
39 Phra Atit Road  
Bangkok 10200 Thailand  
Tel: +66 2 281-7844 Ext.139  
Fax: +66 2 280-0445  
Email: patrick.durst@fao.org

**Mr Steffen Weidner**

Associate Professional Officer  
Agroforestry/Community Forestry  
FAO Regional Office for Asia and the Pacific  
39 Phra Atit Road  
Bangkok 10200 Thailand  
Tel: +66 2 281-7844 Ext.130  
Fax: +66 2 280-0445  
Email: steffen.weidner@fao.org

**HELVETAS****Mr Peter Taylor**

Technical Advisor: Education  
Social Forestry Support programme (SFSP)  
218 Doi Can Street (La Thanh Hotel)  
Hanoi, Vietnam  
Tel: +84 4 832-9833  
Fax: +84 4 832-9834  
Email: sfsp.pt@hn.vnn.vn

**RECOFTC****Dr Robert Fisher**

RECOFTC, Kasetsart University  
P.O. Box 1111  
Bangkok 10903 Thailand  
Tel: +66 2 940-5700 ext. 1222  
Fax: +66 2 561-4880  
Email: ftrj@nontri.ku.ac.th

**Dr Pearmsak Makarabhirom**

Regional Community Forestry Training Centre  
(RECOFTC)  
Kasetsart University, PO Box 1111  
Bangkok 10903 Thailand  
Tel: +66 2 940-5700 ext. 1222  
Fax: +66 2 561-4880  
Email: ftrj@nontri.ku.ac.th

**ICRAF****Dr Dennis P Garrity**

Regional Coordinator  
ICRAF-SEA, PO Box 161  
Bogor 16001, Indonesia  
Tel: +62 251 625-415  
Fax: +62 251 625-416  
Email: d.garrity@cgiar.org

**Mr Chun K Lai**

ICRAF-Philippines  
P.O. Box 35024  
UPLB, College, Laguna 4031,  
Philippines  
Tel: +63 49 536-2925  
Fax: +63 49 536-2925  
Email: 110022.555@compuserve.com

**Mr Per G Rudebjer**

ICRAF-SEA  
PO Box 161  
Bogor 16001, Indonesia  
Tel: +62 251 625-415  
Fax: +62 251 625-416  
Email: p.rudebjer@cgiar.org

**Mr Bruno Verbist**

Associate Training Officer  
ICRAF-SEA  
PO Box 161  
Bogor 16001, Indonesia  
Tel: +62 251 625-415  
Fax: +62 251 625-416  
Email: b.verbist@cgiar.org

**Observers****Prof. Stellavilla Castillo**

Associate Professor, College of Forestry and CF  
Coordinator for Instruction  
College of Forestry, UPLB  
College 4031  
Laguna, Philippines  
Tel: +63 49 536-3432/536-3026  
Fax: +63 49 536-3206

**Dr Roberto V Dalmacio**

Associate Professor, College of Forestry and  
Chair, Course Management for the  
Postgraduate Diploma in Agroforestry Course  
UP Los Baños, College 4031 Laguna, Philippines  
Tel: +63 49 536-2599/536-2657  
Fax: +63 49 536-3657  
Email: uap@laguna.net

**Ms Rachanee Maneekul**

Kasetsart University Graduate student in Social  
Forestry  
UP Los Baños, College, Laguna, Philippines  
Tel: +63 49 536-2276  
Email: Rmscho@agri.searca.org

**Prof. Hermenegildo S Sitoy**

External Linkage Facilitator, Professor of  
Biology and ASPECTS -Mindanao PFT Vice-  
Chair  
Misamis Oriental State College of Agriculture  
and Technology (MOSCAT)  
Claveria 9004 Misamis Oriental, Philippines  
Tel: +63 912 710-5324  
Fax: +63 912 710-5324

## Appendix 5. Workshop programme

Regional Workshop on Agroforestry Education in Southeast Asia  
March 23–27, 1998, Los Baños, the Philippines

### Sunday, March 22

Time	Activity	Presenter/Moderator
	Arrival of participants/transfer to Los Baños	

### Monday, March 23

Time	Activity	Presenter/Moderator
8:00-8:30	Registration	
8:30-9:30	<b>Opening ceremony</b> <b>Please refer to the opening ceremony programme</b>	
9:30-10:00	Coffee/tea break	
	<b>Session 1:</b> <b>Setting the stage</b>	Moderator: Romy del Castillo
10:00-11:00	Introductions of participants & their expectations/ Workshop objectives and activities	Chun Lai/ Per Rudebjer
11:00-11:20	Current issues in agroforestry research— ICRAF's SE Asian Regional Research programme	Dennis Garrity
11:20-11:40	ICRAF's global training programme	Bruno Verbist
11:40-12:00	The African Network for Agroforestry Education (ANAFE)	Per Rudebjer
12:00-12:30	Open forum	
12:30-13:30	Lunch	
	<b>Session 2:</b> <b>Examples of agroforestry education in SE Asia</b> (20 minutes/presentation + 10 minutes discussion)	Moderator: Chun Lai
13:30-14:30	<i>AF education within forestry faculties:</i> <ul style="list-style-type: none"> <li>Gadjah Mada University</li> <li>Kasetsart University</li> </ul>	Sambas Sabarnurdin Monton Jamroenprucksa
14:30-15:30	<i>AF education within agricultural faculties:</i> <ul style="list-style-type: none"> <li>Khon Kaen University</li> <li>Misamis Oriental State College of Agriculture and Technology</li> </ul>	Patma Vityakon Juan Nagtalon
15:30-16:00	Coffee/tea break	
16:00-17:00	<i>AF education within university/college framework:</i> <ul style="list-style-type: none"> <li>Thai Nguyen AF College</li> <li>UPLB Agroforestry programme</li> </ul>	Ly Van Trong Romy del Castillo
19:00	Welcome dinner	

## Tuesday, March 24

Time	Activity	Presenter/Moderator
8:00-8:15	Announcements	Chun Lai
8:15-9:15	<b>Session 2 (continued):</b> <i>AF education within other institutions:</i> <ul style="list-style-type: none"> <li>National University of Lao PDR, Faculty of Agriculture and Forestry</li> <li>Vietnam Agricultural Sciences Institute</li> </ul>	Somphanh Pasouvong/ Bounthanom Vanhnouvong Ha Dinh Tuan
9:15-9:45	Open forum on Session 2	
	<b>Session 3:</b> <b>AF education and training at the national level</b>	Moderator: Bruno Verbist
9:45-10:00	Guidelines for five national working groups	Romy del Castillo
10:00-10:30	Coffee/tea break	
10:30-12:00	National working group deliberations	
12:00-13:00	Lunch	
13:00-15:00	National working groups, continued	
15:00-17:00	Plenary session, presentation of national results (20 min per group + 20 min open forum)	

## Wednesday, March 25

Time	Activity	Presenter/Moderator
	<b>Session 4:</b> <b>Regional issues and priorities</b> <b>— towards a regional agenda for action</b>	Moderator: Romy del Castillo
8:00- 8:15	Announcements	Chun Lai
8:15- 8:45	UPM and inter-university cooperation in SEA	Kamis Awang
08:45- 09:30	Guidelines for four cross-national working groups	Romy del Castillo
9:30-12:00	Cross-national working group deliberations (including coffee/tea)	
12:00-13:00	Lunch	
Afternoon	Tour of UPLB and agroforestry trials at Mudsprings, Mt Makiling	
Evening	Working groups continue as needed	

## Thursday, March 26

Time	Activity	Presenter/Moderator
	<b>Session 4 (continued)</b>	Romy del Castillo
8:00- 8:15	Announcements	Chun Lai
8:15- 8:45	FAO-RAP	Patrick Durst
8:45- 9:15	Social Forestry Support programme/Vietnam	Peter Taylor
9:15- 9:45	RECOFTC	Bob Fisher
9:45- 10:00	Coffee/tea break	
10:00- 11:00	Plenary session, four working group presentations on a regional agenda for action (20 min per group)	
11:00-11:30	Reach consensus on regional priority issues	Per Rudebjer
	<b>Session 5: Action plans for country studies</b>	Moderator Per Rudebjer
11:30-12:00	Guidelines for five national working groups	Romy del Castillo/ Bruno Verbist
12:00-13:00	Lunch	
13:00-17:00	National working group deliberations	
Evening	Working groups continue as needed	

## Friday, March 27

Time	Activity	Presenter/Moderator
	<b>Session 6: Putting it all together</b>	Moderator: Chun Lai
8:00- 8:15	Announcements	Chun Lai
8:15-10:00	Report-back of national groups (20 min per group)	
10:00-10:15	Coffee/tea break	
10:15- 10:45	Discussion on SEANAFE draft proposal outline	Per Rudebjer
10:45- 11:30	Synthesis and adoption of SEANAFE work plan and country follow-up actions	Romy del Castillo/ Per Rudebjer
11:30-12:00	Evaluation of workshop relative to expectations	
12:00-12:30	Closing ceremony	
12:30-13:30	Lunch	
Evening	Farewell dinner	

## March 27 afternoon & March 28

<b>Post-workshop activities for Education Fellows</b>		
	Refinement of action plans for Country Studies and work on data collection tools, reporting format and monitoring mechanisms	



Supported by the  
Consultative  
Group on  
International  
Agriculture  
Research

International Centre for Research in Agroforestry  
Southeast Asia Regional Research Programme

P.O. Box 161, Bogor 16001, Indonesia

Telp: 62-251-625415; Fax: 62-251-625416; Email: [icraf-indonesia@cgiar.org](mailto:icraf-indonesia@cgiar.org)