

# **Southeast Asian Network for Agroforestry Education (SEANAPE)**

**Edited by**

**Per G Rudebjer  
Romulo A del Castillo**



# **The 1<sup>st</sup> General Meeting of the Southeast Asian Network for Agroforestry Education (SEANAFE)**

Harrar Hall, IRRI, Los Baños, Laguna, the Philippines  
April 26-28, 1999

Edited by

Per G Rudebjer and Romulo A del Castillo

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## Preface

Farmers have always known and practiced agroforestry, but serious scientific inquiry into this multidisciplinary field started less than 20 years ago. The scientific content of agroforestry became apparent only above five years ago, drawing tremendous interest from researchers and educators worldwide. It is still dicey for interested institutions to decide on where to place agroforestry. Its system-orientation defies simple slotting into well known structures of research organizations and universities. But farmers have always known where to place it on their farms.

As we increase our understanding of the scientific principles underpinning some of the benefits farmers draw from agroforestry, universities are struggling to create space for agroforestry in their curricula. In Africa, the International Centre for Research in Agroforestry (ICRAF) has supported colleges and universities to do this for about one decade. Through the African Network for Agroforestry Education (ANAFE) many institutions have managed to review their curricula and develop teaching materials, among other things.

Some universities in Southeast Asia already recognized the importance of agroforestry and moved ahead to develop new programmes in this field. But many others had done little. The Southeast Asia Network for Agroforestry Education (SEANAFE), launched in 1999, provides opportunities for universities in the region to pool their experiences and move forward in the field of agroforestry.

SEANAFE has the challenging mission to assist education institutions in Indonesia, Laos PDR, the Philippines, Thailand and Vietnam to institutionalize training in agroforestry. SEANAFE has to go beyond this—the greater challenge is to assist farmers to improve their practice of agroforestry by making new knowledge available at the farm level.

I congratulate the members of SEANAFE for the enthusiasm they have and their visionary plans for their institutions and farmers in the region. I believe in the years to come, the fruits of this network will be visible on farmers' fields.

August B Temu  
Leader  
Capacity & Institutional Strengthening Programme  
ICRAF

## Acknowledgements

SENAFE is the result of a strong interest among educational institutions in Southeast Asia to jointly work towards better agroforestry education. Dedicated efforts, particularly over last 2 years, by committed individuals and teams of teaching staff and institution leaders made SENAFE a reality in 1999. We would like to express a word of appreciation to all who took part in this process.

We are also very grateful to the Swedish International Development Cooperation Agency (Sida) for funding this meeting, through its general support to SENAFE.

Excellent support for the General Meeting was provided by ICRAF-Philippines: Chun Lai, Glo Acaylar, Maridol Yabut, and May Caballero; and by UPLB Institute of Agroforestry: Ana Tuico, Consolacion Lampa, Jimson Solatre, Leah Arboleda, Leila Landicho, Roselyn Paelmo, and Rowena Cabahug. We are also thankful for the administrative and financial services provided by the administrative staff of ICRAF's offices in Bogor and Chiang Mai. We thank them all for their dedicated team work.

Per G Rudebjer and Romulo A del Castillo



## Introduction

The first General Meeting of the Southeast Asian Network for Agroforestry Education (SEANAFE) was held on April 26-28 1999, in Harrar hall, IRRI, Los Baños, the Philippines. Forty-nine participants attended the 3-day meeting. They represented 32 founding SEANAFE institutions from five countries, Indonesia, Lao PDR, the Philippines, Thailand and Vietnam; and partners and resource persons from the following organizations:

- The Embassy of Sweden
- International Rice Research Institute (IRRI)
- FAO Regional Office for Asia and the Pacific
- Social Forestry Support Programme (SFSP), Vietnam
- University of the Philippines Los Baños (UPLB), College of Agriculture; and College of Forestry and natural Resources
- Negros Occidental Agriculture College, the Philippines
- Philippines Council for Agriculture, Forestry and Natural Resources Research and Development (PCCARD)

## General Meeting objectives and outputs

The first General Meeting of the Southeast Asian Network for Agroforestry Education (SEANAFE) had the following objectives and expected outputs:

Objectives:

- To formally launch the Southeast Asian Network for Agroforestry Education (SEANAFE)
- To establish SEANAFE's identity, profile and functions, particularly regarding priorities for its first 2-year period
- To guide the implementation of the ICRAF-based SEANAFE support project
- To guide the development of SEANAFE protocol and management mechanisms

Expected outputs:

- SEANAFE established and guidelines for its functions and management established
- Activity plan for the SEANAFE support project revised



**1st GENERAL MEETING OF THE  
SOUTHEAST ASIAN NETWORK FOR AGROFORESTRY EDUCATION (SEANAFE)  
26 to 28 APRIL 1999 . IRRI, LOS BAÑOS, LAGUNA, PHILIPPINES**

# Welcome remarks by Dr Ronald Cantrell

*Director General, IRRI*

It's my pleasure to welcome all of you to IRRI<sup>1</sup>. We are especially pleased to have His Excellency Bo Eriksson with us today. It is a pleasure for IRRI to host this conference, and I personally take a lot of interest and pride in the fact that you are organizing this educational effort.

I worked at CIMMYT<sup>2</sup>, which is another CGIAR<sup>3</sup> centre, in the 1980s. And one of the things that was very frustrating to me at that time was that there was a lot of concern about the money that was spent for training. It was felt that since the early 1960s, the CGIAR and the donor community had been funding training and education and that enough people had been trained—that the task had been done. I was not convinced that that was true. But there was a lack of interest on the part of the donor community. And as we began to do our planning in the late 1980s, education and training was actually not considered as part of our core activities. It was extra core, it was something that would require extra money. It was not part of our core theme.

We just had a system-wide review of the CGIAR and one of the things that was coming back to the forefront is a renewed interest in training. It is like we have rediscovered it, which I think is very good. I am pleased that the Swedish International Development Cooperation Agency (Sida) is taking the leadership in training, by setting up this network.

What I would like to do just briefly is tell you what I think some of the challenges are for the next century. A lot of the interest now is in the new millennium. What are we going to do in the next millennium? I think some of the things that I will say will be also applicable to ICRAF. Probably the challenges will face the entire CGIAR system and all of our partners.

To start off we have this challenge of producing probably in excess of 30% more rice on the annual basis in the next 30 years. We have to do that with less land and, under some predictions, less than 50% of the amount of the water available to agriculture today. That in itself is a daunting goal. The new tools, plant molecular biology, is a challenge as well as an opportunity. It presents some interesting challenges for us because much of the research that is being done on these new tools of plant molecular biology are done in the private sector. The question becomes how we can access those? In the past, most of our tools that we dealt with in the international agricultural research system came out of the public sector, so there were no questions about access. But now that they are

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<sup>1</sup> International Rice Research Institute

<sup>2</sup> Centro Internacional de Mejoramiento de Maíz y Trigo

<sup>3</sup> Consultative Group on International Agriculture Research

coming out of the private sectors, how are we going to access them? Another aspect of this new tools is the fact that its going to require a tremendous amount of public awareness. There is a lot of interest by the public about these new tools—cloning and genetically modified organisms. As we use these new tools to develop improved germplasm, the public is interested. We have to do a better job of communicating with the media and the public about these new tools and about which ones are safe. Safety is a big issue. We have a tremendous opportunity with the new tools, but there will also be a lot of challenges associated with those.

A second major challenge as we look at the new millennium, is that a lot of the technologies that are going to be required in taking care of our natural resource base in producing more food are very knowledge-intensive technologies. As you know, a lot of IRRI's success is perceived to be in the new improved varieties. Improved varieties are fairly easy to transfer. You can jokingly say that you can throw the varieties over the fence and there tend to be a multiplication factor. Whereas, if you look at some of the concepts involved with Integrated Pest Management (IPM), these very knowledge-intensive areas are very difficult to get adopted. This leads to one of the key elements of what you are addressing today, which is education. It takes a lot of public support for the education to be able to effect the transfer of these knowledge-intensive technologies. Those are the ones that are going to be required in the next century and it is going to be a daunting challenge for us.

I mentioned earlier the private sector. In Asia we have not had a strong private sector in rice like a lot of the other major food commodities. The private sector is heavily involved in research now, so it is going to be very important that we complement what the private sector is doing. As long as you are the only game in town, like we in the public sector were at one point, it is very easy to set your priorities. Because you can communicate about what everyone have been doing and then you decide what to do and you compare it with anybody else. It is much more difficult to know what the private sector is doing. But we can not compete with them nor should we try to. Therefore, in terms of setting priorities it is going to be much more difficult in the future because of the role of the private sector.

The last challenge that I will mention to you is that of official development assistance. If you look at the worldwide official development assistance, it has been decreasing the last seven years. There is nothing that indicates that there is going to be a tremendous upswing in the near term. So from where is the support going to come for public funded research and technology transfer activities, on a global basis? Right now, for the CGIAR system I think that one of our major goals is to be able to keep the funding at the current level.

These are what I consider to be the challenges that face not only IRRI but ICRAF and many of your institutions also. But again I appreciate very much the opportunity to welcome you and I hope that you have an excellent workshop. Thank you.

## Opening Remarks by Dr R A del Castillo

*Director, Institute of Agroforestry, College of Forestry and Natural Resources, University of the Philippines Los Baños*

His Excellency Ambassador Bo Eriksson, Director Ronald Cantrell, Dean Lucrecio Rebugio, Dean Cecilio Arboleda, Mr Per Rudebjer; distinguished guests and colleagues, fellow participants and friends, ladies and gentlemen:

The last three decades witnessed the growing acceptance of agroforestry as a land-use system in sustainable development of upland areas. It was in the decade of the 1970s that government and private agencies began promoting agroforestry as a land-use system in the implementation of people-oriented forestry and related development projects. It may also be noted that it was in the same decade that the academe began responding to the challenge by engaging in supportive research and extension activities, and developing education and training programmes that catered to the increasing human resources need in this evolving field.

Since that decade, agroforestry education at the tertiary level has made tremendous progress. From the early integration of agroforestry concepts and principles in the traditional courses in agriculture and forestry, it has evolved into full-blown degree programmes available at various levels. These include technical and baccalaureate level curricula designed to produce graduates equipped with the knowledge and skills in the promotion and adoption of people-centred and environment-friendly farming technologies. These curricula are designed, not only to develop special skills among the graduates, but also to develop the right attitude and abilities needed to empower communities toward increased production and equitable sharing of benefits in the management of natural resources.

Today, agroforestry education is available not only in the undergraduate, but also in the graduate level. Agroforestry is now offered in some institutions as a one-year post-baccalaureate Diploma in Agroforestry course; as a full study programme in the MSc level; as a major field in the MSc in Rural Development; and as a cognate in the Crop Production and Management major in the PhD programme.

Global and regional programmes to promote the advancement of agroforestry education were likewise organized during the same period. The First International Workshop on Professional Education in Agroforestry was conducted in 1982 under the auspices of the International Centre for Research in Agroforestry (ICRAF) in Nairobi. Eleven years later, the African Network for Agroforestry Education was launched to help enhance the growth of agroforestry education in the African continent.

In our own region in Southeast Asia, the initial work towards a regional programme in agroforestry education at the tertiary level was made possible through the combined efforts of the Southeast Asia office of ICRAF and the Asia-Pacific Agroforestry Network (APAN). A Roundtable Discussion on Agroforestry Education in Southeast Asia was held in Bogor, Indonesia in 1994 with the collaboration of six educational institutions, namely: Institut Pertanian Bogor, Universitas Gadjah Mada, and Universitas Lambung Mangkurat in Indonesia; Kasetsart University and Chiang Mai University in Thailand; and the University of the Philippines Los Baños through the Institute of Agroforestry (then known as the UPLB Agroforestry Programme). This activity enabled these institutions to exchange information related to the development and implementation of agroforestry programmes and to identify areas for intra- and inter-university collaboration at the national and regional levels. In addition, the group developed a framework for a proposal together with an action plan for regional collaboration. This very framework was later used by ICRAF to generate funding support to enable us to work for the achievement of our common goals.

After about three years, this initial work resulted in the implementation of the ICRAF-based Southeast Asian Initiative for Agroforestry Education in 1997-1998. The project covered an expanded number of participating institutions in the three original Southeast Asian countries and two new ones, namely: the Lao PDR and Vietnam. Through the funding support provided by the Swedish International Development Cooperation Agency (Sida), the project made possible the implementation of five country studies that culminated in national and regional workshops to assess the needs and determine areas for regional collaboration. These activities resulted in a strong resolve on the part of participating institutions to establish a mechanism to enhance and facilitate the strengthening of agroforestry education in our region.

And this is precisely the subject of our meeting today. We are gathered here this morning to take part in the launching of the Southeast Asian Network for Agroforestry Education (SEANAFE). As indicated in earlier communications, Sida has kindly agreed to allocate some amount from its grant to ICRAF to provide support for some development activities of SEANAFE during the next four years up to the year 2002. Hence, in addition to witnessing the launching of SEANAFE, we are here to do some work for our new network. At the end of this three-day meeting, we hope to have collectively firmed up SEANAFE's vision, mission and goal. We should also use this occasion to finalize the set of development activities for the growth of agroforestry education in our region and respective institutions. And finally, we have to come to some agreement as to how we should manage the network in an efficient and sustainable manner.

Honoured guests and friends: let me end this brief remark with an expression of most profound gratitude to all our resource persons and participants. They have kindly taken their time to be with us in this historic occasion to generously participate in this process of shaping the future of agroforestry education in this part of the world.

## Remarks by Dr Lucrecio L Rebugio

*Dean, College of Forestry and Natural Resources*

The College of Forestry and Natural Resources (CFNR) is pleased to participate in this very important gathering to formally launch SEANAFE. As a leading agroforestry institution, I believe that the College has much to benefit from SEANAFE but also much to offer to SEANAFE. The College, through the Institute of Agroforestry in UPLB formerly the UPLB Agroforestry Program, has played a leadership role in conceptualizing and realizing SEANAFE and it expects to play the same role in its implementation in partnership with ICRAF and Sida.

The College has a long history of academic excellence in the field of agroforestry education. As early as the 1970s, it was one of the first institutions to offer a formal course in agroforestry. Since then, the College has instituted numerous courses at the undergraduate and graduate levels. Through the initiative of the UPLB Agroforestry Program, now the Institute of Agroforestry, the 1990s saw the rapid development of academic programs in agroforestry culminating with a Diploma in Agroforestry in 1998, jointly offered by the CFNR and College of Agriculture. Currently in the pipeline is a Master of Science program in agroforestry.

The commitment of the College to agroforestry education is also manifested in the quality of its staff, headed by Dr del Castillo, which it has generously seconded to the Institute of Agroforestry.

This commitment is anchored on a firm conviction that agroforestry is a key strategy towards environmental conservation and poverty eradication in many countries of Southeast Asia. In the Philippines alone, the potential of agroforestry is a reality for 9-10 million farmers, dependent on some form of upland farming in 4-5 million hectares of upland areas.

At this point, let me briefly share some insights based on my limited experiences in the establishment of networks. Networking is a wonderful idea for facilitating mutually beneficial relationships among various partners, who share some common goals and objectives. However, in practice, it takes a lot of commitment, resourcefulness and creativity to sustain it. The success of networking is based on mutual partnership. There had been many attempts to form networks of various kinds in Asia. Some succeeded but many more have not. I believe that a key issue in building networking is how to ensure sustainability especially after outside support has terminated or dried up. Right from the beginning therefore, we should have commitment for the agencies, sponsors and partner institutions.

Finally, let me reiterate our firm resolve to do our share towards making SEANAFE a success. I wish all of you a productive meeting.

## Remarks by Per G Rudebjer

*Project Leader, ICRAF*

His Excellency, the Ambassador of Sweden; Director General Cantrell; Dean Rebugio, and Dean Arboleda; Dr del Castillo; Distinguished participants from a great number of institutions in the region:

Good morning and welcome to this the first General Meeting of the Southeast Asia Asian Network for Agroforestry Education. Or SEANAFE for short—our contribution to the global glossary of acronyms. First, let me express a few words of thanks: To IRRI for letting us to use these excellent conference facilities, and to UPLB and the Institute for Agroforestry for co-arranging this meeting. ICRAF highly appreciates this partnership.

For many of us, this meeting is a landmark and the end of a long planning phase. As we have heard in earlier remarks this morning, several initiatives have been taken to strengthen regional collaboration in agroforestry education. And with the launching of SEANAFE today, this regional collaboration reaches a new beginning.

Before I continue, I would like to forward warm greetings to you from my colleagues at ICRAF headquarters and our Southeast Asia regional office. Let me, on behalf of ICRAF's regional coordinator, assure you that we remain committed to support the efforts of this emerging network. In particular we look forward to intensified research collaboration with students and staff of universities in Southeast Asia.

This is indeed a great moment for ICRAF. For many years ICRAF's capacity building programme focused on Africa, but had limited resources work in Southeast Asia. The establishment of SEANAFE will definitely help ICRAF to disseminate agroforestry research results to a wide range of users in Southeast Asia.

ICRAF's mission is to improve the livelihood of small-scale farmers, through improved agroforestry systems. ICRAF is working towards this mission through what we have chosen to call a 'Research and Development Continuum'.

This means that ICRAF is involved in a whole spectrum of activities, from traditional research, via applied on-farm research, to pilot development projects. Today, ICRAF is doing most of it's research on farmers fields. In fact, often it is the farmer that is both designing and managing those trials. ICRAF's role is more to help identify research issues, collect data, analyse and interpret results and share them with a large range of users. The key word is partnership. Without devoted partners in all steps along this research and development continuum, ICRAF can not achieve much.

You are representing an important group of partners, the universities and technical colleges of the region. You are the ones shaping the future of the young generation in



Southeast Asia. You have opted to form a regional network to address common concerns: That high-quality agroforestry education is needed in Southeast Asia.

Reflecting on the changes that have influenced agroforestry research in the recent decades, agroforestry education is going through a similar change. Teaching of principles and theories on agroforestry need to be matched by the ability among graduates to do good agroforestry with farmers. This requires a whole new set of competencies. Competencies that traditional agriculture and forestry programmes often did not include. I would like to mention 3 such competencies

1. **SYSTEMS THINKING:** Small-scale farmer do many things on the same unit of land. They integrate, rather than specialize. One reason for this is to reduce risks. In addition, what they do on their piece of land has implications outside their farm borders. Trees on farms help improve watershed functions, biodiversity, and indeed the global climate.
2. **SOCIOECONOMICS:** Small-scale farmers are businessmen. They respond to policies, subsidies, market mechanisms. Their actions are further depending on their social environment: traditions, beliefs, tenure arrangements and local institutions. An agroforester need to have an insight in all these areas in order to do his or her job well.
3. **PEOPLE-CENTRED:** It is the farmer who is the land manager. In order to improve the way land is managed, it is necessary to have the skills to work with farmers. I am thinking of skills like participatory methods, interview techniques, appreciation of indigenous knowledge, and skills in on-farm research.

These important aspects must affect the way we design educational programmes and the way we teach them. Or rather, the way we help students to learn.

This challenge is now being addressed by the 32 institutions that today launch SEANAFE. This new network builds on the status and needs assessment carried out last year, with financial support from the Sida. It showed that:

- there is a recognition of common needs
- there is a willingness to share resources
- there is a shared vision about the future of agroforestry education

In particular, the study pointed out that there are urgent needs for:

- curriculum development and review
- training of agroforestry teachers
- access to training materials
- graduate students' thesis research in agroforestry
- national and regional collaboration

Based on these findings, ICRAF developed a project proposal in support of SEANAFE. The proposal was submitted to Sida in November 1998. And although the formal agreement is still pending, I have the word that Sida will support SEANAFE for the next 4 years.

Therefore, this meeting has two main tasks to accomplish: to formally establish SEANAFE; and to guide ICRAF in how to best use the resources available for the SEANAFE support project. And maybe a third task should be mentioned—how SEANAFE could link with other organizations/projects in the region that have a similar mission.

It is my belief that in years to come SENAFE will play a leading role in developing agroforestry education in Southeast Asia. The challenge is to produce graduates that are well equipped to help improve the livelihood for small-scale farmers, particularly in the uplands of Southeast Asia. SEANAFE may only be an acronym at this moment. But I hope that as we wind up this meeting on Wednesday, we shall have added both meat and bones to the acronym. Thank you and wishes for a successful meeting.

## Message by His Excellency Bo Eriksson

*Ambassador, Embassy of Sweden*

Ladies and gentlemen, good morning. First of all let me thank the hosts and organizers of this launching, Dr Cantrell, Dr del Castillo, Dr Rebugio and Mr Rudebjør for their kind words of welcome. Those of you who have spent some time in the environmental inferno of Manila might understand that if you work there you do not need very much of an excuse to visit Los Baños. Its always a relief to get out here. I have been here many times and I must confess that IRRI is one of my favorite institutions: it is fascinating, almost mind blowing. And from the outline that Dr Cantrell gave us sometime ago about the challenges that IRRI faces, even an amateur and a layman like myself can understand what a crucial institution this is for the future of Asia.

I think I can venture to say that over the years, Sweden and the Northern countries in general, have been faithful supporters to IRRI and I am very pleased, very proud that Sida has decide to support this regional initiative and your network through another CGIAR institution, namely ICRAF. We also hope that Sida, in the near future will make a similar commitment to a regional project for coastal zone management.

These activities in your network are very much in line also, I would like to point out, with what Sweden is doing bilaterally in the Philippines. We are not a major donor but most of our cooperation with the Philippines is in the area of the environment. It has a heavy environmental emphasis.

I am very pleased that you invited us here today to this launching. I wish you all success with outlining the visions and the objectives of the network and I wish SEANAFE all success in its future activities. Thank you very much.

## **Gearing agroforestry education into the 21<sup>st</sup> century— keynote address of the Chancellor of UPLB, Dr Ruben L Villareal**

*Read by Dr Cecilio R Arboleda, Dean, College of Agriculture, UPLB*

Warm greetings!

Chancellor Ruben L Villareal sends his warm felicitations to you in this the First General Meeting of the Southeast Asian Network for Agroforestry Education. I believe that with the launching of our fledgling network, we are beginning another legacy in natural resources protection and conservation.

The invitation requests me to deliver a keynote address. At the onset, however, I wish to tell everyone here that agroforestry is not within my expertise. Thus, each of you who have dedicated part of your lifetime in this line of work can offer a more profound assessment on the subject. Do not despair though, you came here to listen and so I will still share some of my thoughts on agroforestry education and the significance of today's very momentous occasion.

Eight years ago, in recognition of the global developments and trends in the management of the upland resources and mountain systems, we established here in Los Baños the agroforestry education program. Many have referred to agroforestry merely as a method, an answer to the urgent calls for soil, water and resource conservation and more importantly a means for achieving increased production and greater economic gains.

With the creation of our own Agroforestry Program, we took part in the promotion and elevation of this technology or 'method' into a science. We envisioned the emergence of progressive and productive rural communities that are able to harmonize farming with environmental conservation principles. Communities that can sustain food production, wood and provision of services through the use of sound agroforestry practices. Towards this end, our agroforestry program relentlessly pursued development projects and a comprehensive research program for the development of appropriate technologies and to reach as many upland communities as possible. In training alone, thousands of local and foreign trainees have been equipped with knowledge and skills needed in rehabilitating degraded uplands and sustaining upland development efforts. We should not have been able to accomplish this much without the involvement of the people themselves in the quest for self-reliant communities as well as the assistance of our allies like you in agroforestry work.

In line with this, a formal education program in agroforestry becomes a must for its full integration in the whole production system. With this move, more professionals with the proper education, training and skills will be made available and take charge in agricultural development work both in the uplands and the lowlands. Here in the UP Los Baños campus, we were able to elevate the UPLB Agroforestry Program into an Institute of Agroforestry last year. We are still in the process of establishing scholarship programs and in building library collections with other schools. More institutions have banded with us into a national network in an effort to boost the development of agroforestry education.

I am not sharing this with you today to brag or boast of our achievements in agroforestry since I know that you all have made significant achievements in your respective efforts, but rather to make an appeal. We cannot do this job alone. Each of our institutions represented here today has methods or approaches that can be adopted by others in our respective work. We can learn from each other and that is where this network becomes very vital: a facilitating mechanism for enhancing collective efforts in strengthening agroforestry education and training in the region.

There are, however, more issues and concerns that must be addressed that apply to all our institutions. These include, inadequate link of agroforestry education to the field, research and extension, small number of lecturers, limited teaching materials, the general lack of or access to field practical facilities, and limited resources.

Thus, it is imperative for us to form this Southeast Asian network. We have a vision for agroforestry education. The SEANAFE workshop highlights that vision as 'High-quality, farmer-oriented agroforestry education as a recognized interdisciplinary field of study, to meet future requirements in natural resources management.' We have also defined our mission: the improvement of agroforestry education and training that will contribute towards socioeconomic improvement of farming communities and sustainable natural resources management in the region. This network, as we have agreed, is the appropriate vehicle to put that vision into motion. I believe that we have the committed participation of all those involved in this endeavour. There would be no network if there were no commitment. We have dreams of a brighter future for our people and our environment. We should work harder to set agroforestry development into motion. Now is the time for action!

Thank you.

## Launching of SEANAFE

The opening session culminated by the official launching of SEANAFE. In this event, the SEANAFE logo was unveiled in a symbolic ceremony, in the presence of His Excellency the Ambassador of Sweden, the Director General of IRRI, and other honoured guests (Figure 1):



Unveiling of the SEANAFE logo during the launching ceremony on 26 April 1999.



The symbolism behind the logo was explained by Dr Romulo A del Castillo:

<b>Elements</b>	<b>Symbolism</b>
Five black circles distributed at even distances	Represent the five founding country members of SEANAFE—Indonesia, Lao PDR, Philippines, Thailand, and Vietnam. They are linked/interconnected by the common goal of promoting sustainable development through quality agroforestry education and training
Each ring or link in the chain	Represents agriculture and forestry institutions in the member countries developing and/or implementing formal and non-formal agroforestry curricula
Tree, buffalo and integrated farm in the green mountain	Represent major interacting components of agroforestry, protecting the watershed value of the uplands while providing food and income for the farmers and communities
Man/woman in silhouette	Represent the people (students, farmers, scientists and other change agents) responsible for agroforestry development through effective gender-balanced partnership. The development of human resources for the promotion of sound agroforestry practices is the main goal of agroforestry education
Blue foreground inside the circle	Continuous flow of clean water in the river or creek protected by the watershed
Yellow background inside the circle	Represents sunlight which is hope for the future—the attainment of the objectives of sustainable development through sound agroforestry
1999	The year when SEANAFE was formally launched
Green branches or twigs	Represents growth of SEANAFE in terms of programmes and institutional/country membership

The participating institutions were asked to pin the location of their school on a map of Southeast Asia. This way, all 32 founding members of SEANAFE in a symbolic fashion expressed their commitment to the goals and objectives of SEANAFE.

# The identity, profile and functions of SEANAFE

## Background

The first group work session of the 1<sup>st</sup> General Meeting of SEANAFE, was introduced by Dr Romulo A del Castillo, Director, Institute of Agroforestry, College of Forestry and Natural Resources, UPLB. He presented some earlier important initiatives in agroforestry education in the Southeast Asian region. Among the events that have built the foundation for SEANAE are:

- A multisectoral workshop on developing agroforestry curricula, held at University of the Philippines Los Baños in 1992
- A regional expert consultation on developing curricula for agroforestry and community forestry in Asia, in Chiang Mai, Thailand 1993, under the auspices of the Asia Pacific Agroforestry Network (APAN)
- A Roundtable Discussion on Agroforestry Education in Southeast Asia, held in Bogor, 1994, jointly organized by ICRAF and APAN

He reminded the participants of the outputs from the 1994 roundtable discussion which included: a realization of the common needs for developing agroforestry to bridge traditional gaps between agriculture and forestry; a declaration of common commitment to support agroforestry education at the tertiary level in Southeast Asia; and a framework proposal cum action plan for an inter-university program to strengthen agroforestry education in Southeast Asia.

Furthermore, he briefed the audience on the Southeast Asian Initiative for Agroforestry Education that was conducted during 1997-1998. He presented the draft vision, mission and objectives for SEANAFE that resulted from this study (described in more detail in the following).

Finally, Dr del Castillo outlined the basic requirements for the establishment of a regional network for agroforestry education, namely:

- mutual trust and confidence
- recognition of common needs
- shared vision for the network: what it should be, what it should aim for, and how it should operate
- willingness to share resources for the common good
- availability of support for initial operation



## **Networking Experiences from Asia-Pacific Agroforestry Network (APAN)**

Chun K Lai, ICRAF-Philippines consultant, emphasized that SEANAFE is not starting from scratch, but building on earlier regional initiatives and networks. The Asia-Pacific Agroforestry Network (APAN) is one of those.

### **What was or is the Asia-Pacific Agroforestry Network?**

APAN was supported by the FAO, Japan and UNDP during 1991-1997. It worked with 11 countries and many partners in the region. One activity was to support agroforestry curriculum development, as mentioned earlier. Some APAN national networks and functions are still operational, as well as the newsletter, APANews.

Mr Lai continued by telling about the major APAN achievements:

- Established regional and national networks that led to greater productive collaboration
- National Coordinators who provided strong leadership, motivation and resource mobilization
- Delivered timely and responsive information and training services that reached to the field level
- Tested resource mobilization mechanisms and examined network sustainability issues (but failed to get funding for 3rd phase).

### **What did we learn from APAN experiences?**

According to Mr Lai, the main lessons learned were that:

- networks can play vital roles and fill niches
- regional networks cannot really generate site impact—that is the job of national networks and local partners
- network development is a long-term process; it must build professional and personal relationships based on mutual trust and confidence
- human and financial resources are essential for networks
- members must help mobilize the needed talent and resources to sustain network activities
- some type of "secretariat" is needed
- networks need to focus on producing joint, useful products, and build upon success.

Mr Lai further recommended to apply the 'KISS principle' (Keep it Simple Sir) to network structure, governance and procedures. Projects will end, but network spirit, functions, values and enhanced knowledge/skills are sustainable. In its later stage, APAN developed a concept of establishing an APAN Foundation. This was and is sound—to help ensure a self-reliant and sustainable agroforestry network in Asia-Pacific.

## **Network or 'not work'?**

Mr Lai said that the foundation for a functional network is:

- A network is a voluntary association
- It needs trust, transparency, commitment
- Must be flexible, responsive, efficient, quick, innovative, sensitive and sensible
- Must be: visible and reliable and deliver the goods
- Should develop cost-recovery and resource mobilization mechanisms

## **The 1998 status and needs assessment on agroforestry education in Southeast Asia**

ICRAF's Project Leader, Per G Rudebjer, then presented the Southeast Asia Initiative for Agroforestry Education. This needs assessment was conducted in 1997-1998 jointly by ICRAF and UPLB-IAF. It was funded by the Swedish International Development Cooperation Agency (Sida), as part of its support to ICRAF.

Mr Rudebjer described briefly the activities undertaken to complete the status and needs assessment:

1. Country visits to identify partner institutions
2. A regional workshop, held in Los Baños on 23-27 March 1998, with 20 institutions in Indonesia, Lao PDR, the Philippines, Thailand, Vietnam
3. Five country studies on agroforestry education, conducted by country fellows, and presented in country reports
4. A regional overview of organizations and projects with a stake in agroforestry education
5. A second regional workshop—'Fellows Workshop'—held in Bogor, Indonesia 4-7 August 1998

He presented the main issues related to agroforestry education that were identified under this Initiative. At the regional level these issues are:

- common needs and experiences, but limited collaboration
- inadequate or outdated curricula
- lecturers require further training and update on research
- shortage of training materials
- universities: inadequate research capacity in agroforestry
- no systematic survey of education and training needs in agroforestry
- agroforestry is yet to be recognized as a field of specialization
- agroforestry education is not adequately linked to the field
- agroforestry education is not properly linked to research and extension
- available country and regional resources are not adequately tapped

Other issues refer to the institutional and national level:

- inadequate or uncoordinated institutional and policy arrangements
- unclear or varied perception of agroforestry
- too small number of agroforestry lecturers
- limited teaching materials for distance learning
- general lack of, or access to, field practical facilities in agroforestry

Finally, he reminded the participants that the strategy to address these issues—as agreed during the Fellows Workshop in Bogor—is to establish SEANAFE in 1999. The main activities of SEANAFE, again suggested by the Fellows Workshop, would be:

- curriculum development
- teaching materials supply, development and translation
- arranging multidisciplinary workshops
- teachers' training
- agroforestry research grants for graduate students
- and to stimulate staff exchange and field projects for lecturers

## Group work: results

The afternoon of 26 April was then spent in national working groups, reviewing the identity, profile and functions of SEANAFE. This was important, because 12 new institutions were present, and because some institutions had sent new representatives. Dr del Castillo provided the following guide questions for the five national working groups:

- Revisit the Vision, Mission and Objectives of SEANAFE. What improvements need to be introduced?
- What functions should SEANAFE fulfil?
- How should recommended activities be implemented at the institution level? Country level? Regional level?

The groups focused on question 1, the vision, mission and objectives. A plenary session on 27 April, harmonized the suggestions made by the different groups. The participants agreed that the vision, mission and objectives for SEANAFE should read:

### Vision

SEANAFE's vision is:

*'High-quality, farmer-oriented agroforestry education as a recognized interdisciplinary field of study, to meet the demand for trained human resources in natural resources management, linked with other relevant networks and related institutions through mutually beneficial collaboration'*

## **Mission**

SEANAFE's mission:

*'SEANAFE shall help improve agroforestry education, training, research and extension, and contribute to socioeconomic development, empowerment of farming communities and sustainable natural resources and environmental management in the region'*

## **Objectives**

SEANAFE's objectives are to:

1. Improve the quality, availability and accessibility of agroforestry education
2. Foster collaboration among disciplines in the educational system
3. Promote cooperation among stakeholders in agroforestry
4. Enhance exchange of information, staff, students and other resources among network members
5. Link agroforestry education to research, extension and practice in the field
6. Provide opportunities for human resources development in agroforestry education and training
7. Help create job opportunities for agroforestry graduates

## **SEANAFE support mechanisms**

Tuesday morning of 27 April was dedicated to discussing resources in support of SEANAFE, particularly the ICRAF-based, Sida-funded SEANAFE support project. The project proposal to support SEANAFE was a direct result of the regional Fellows Workshop held in Bogor in August 1998, as mentioned earlier. Based on the recommendations from the workshop, ICRAF drafted that project document which was then submitted to Sida.

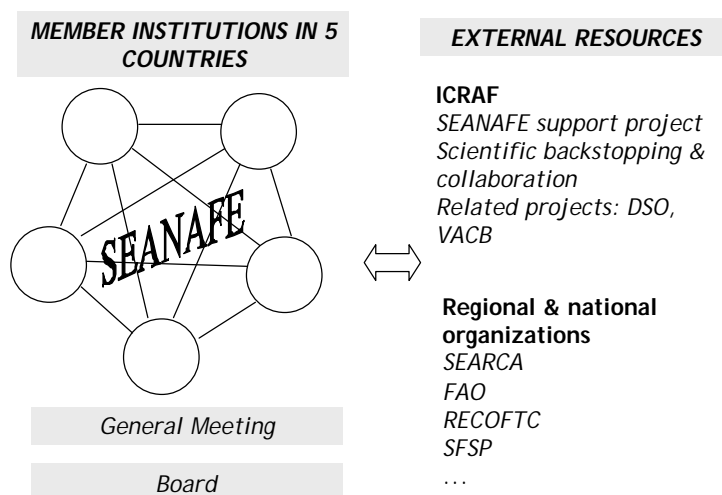
The SEANAFE support project, which is part of Sida's overall support to ICRAF, was approved in April 1999. It will support the emerging network for the 4-year period January 1999–December 2002.

The support project falls under ICRAF's programme for Capacity and Institutional Strengthening, which has five main activities:

- Group training in agroforestry
- Individual training in agroforestry, such as degree fellows, student attachments, and visiting scientists
- Agroforestry training materials
- Strengthening agroforestry in tertiary education
- Information for agroforestry research and development

Per G Rudebjer pointed out that partnership with SEANAFE is very important to ICRAF in the implementation of the SE five activity areas.

SEANAFE will not operate in isolation. There are other external resources available in support of the emerging network: at ICRAF, as well as in other regional and national organizations. Figure 2 illustrates these opportunities for support.



Key: DSO—ICRAF/DSO Training of Trainers project; VACB—Vietnam Agroforestry Capacity Building project; SEARCA—Southeast Asia Ministers of Education Organization (SEAMEO) Regional Centre for Graduate Study and Research in Agriculture; FAO—United National Food and Agriculture Organization; RECOFTC—Regional Community Forestry Training Centre; SFSP—Social Forestry Support Programme

Figure 2. The link between SEANAFE and external resources in ICRAF and other regional and national organizations.

The SEANAFE support project, which is administered by ICRAF's Southeast Asia Regional Research Programme, contains the following main themes:

1. Technical assistance and administrative support
2. Curriculum development
3. Teaching materials supply, development and translation
4. Multidisciplinary workshops
5. Short courses and staff development
6. Students' thesis research and teachers' field projects

Table 2 presents the suggested activities under each theme.

Table 2. The themes and activities of the SEANAFE support project

Theme	Activity	Remarks
Technical assistance and administrative support	<ul style="list-style-type: none"> <li>• Project leader at ICRAF-Southeast Asia</li> <li>• Secretariat services, information and administrative support</li> <li>• Support to SEANAFE meetings and coordination</li> </ul>	The project will strengthen links to ICRAF's Research and Development programmes, and help SEANAFE to access ICRAF's global network
Curriculum development	<ul style="list-style-type: none"> <li>• Curriculum development meetings and workshops, involving stakeholders</li> <li>• Agroforestry curriculum development guide to be developed</li> <li>• Facilitate curriculum development and reviews in member institutions</li> <li>• Policy dialogue on agroforestry education</li> </ul>	Curriculum development was the top priority in the needs assessment. SEANAFE will continuously monitor the development of agroforestry curricula
Teaching materials supply, development and translation	<ul style="list-style-type: none"> <li>• Inventory of agroforestry teaching materials, including 'grey literature'</li> <li>• Purchase and distribution of teaching materials (in collaboration with FAO and others)</li> <li>• Translation of selected teaching materials</li> </ul>	Increasingly, SEANAFE will use Internet to provide agroforestry teaching materials and information
Multidisciplinary workshops	<ul style="list-style-type: none"> <li>• Invite policy makers, administrators to workshops and meetings</li> <li>• National or regional seminars on agroforestry jobs</li> <li>• Market study on agroforestry graduates</li> </ul>	This activity helps bridge the gaps between disciplines, and helps recognize the skills of an agroforester.
Short courses and staff development	<ul style="list-style-type: none"> <li>• Individual training for teachers—sponsorship to ICRAF training courses</li> <li>• Support national training-or-trainers courses</li> <li>• Visiting lecturer/staff exchange programme</li> </ul>	The qualification and quantity of human resources is unevenly distributed among the SEANAFE countries
Students' thesis research and teachers' field projects	<ul style="list-style-type: none"> <li>• Fellowships for students' MSc thesis research in agroforestry</li> <li>• Support to field projects/case studies for agroforestry teachers</li> </ul>	Students' research is an opportunity for collaboration with ICRAF

This part of the SEANAFE General Meeting continued with a group work session on the SEANAFE support project. The national groups reviewed the activities suggested in the project document and gave feedback on the activity plan, in order to best meet the needs of the SEANAFE members. Table 3 below, summarizes the suggestions from the five countries.

The open forum that followed raised the following comments and suggestions for SEANAFE to consider:

- The opportunities of information technology. A SEANAFE website can both provide technical information on agroforestry, and information about what is happening in the network. Can SEANAFE provide hardware and software to members?
- The overall aim is to develop educational programmes, for instance by strengthening their socioeconomic content
- SEANAFE may consider promoting linkages between employers and students, for instance through student internships
- Joint authorship of papers can be encouraged, that will help younger staff members to publish
- Some partners in the network are already rather busy and there is need for SEANAFE to balance SEANAFE activities with time available for those partners
- By building on existing networks SEANAFE can have far-reaching impact
- SEANAFE should observe the needs for field practicum and extension. There is probably need to articulate how the capacity building in educational institutions relate to the capacity to strengthening of the extension system.

Table 3. Recommendations from the national working groups regarding the implementation of the SEANAPE support project

Theme	Indonesia	Lao PDR	The Philippines	Thailand	Vietnam
1. Establish and run SEANAPE	Recommend support to national meetings			Priority 1. Add activity: Establish national network for each member country. Deans of Agriculture could take the lead	
2. Curriculum development	Priority 1	Priority 1. Curriculum development guide needed for each level: university; technical school; training centre. Include policy dialogue on agroforestry education and training	Priority 1. Training needs assessment and demand analysis needed regionally and nationally. At national level, minimum standards need to be revised	Priority 4	Priority 1. Collaborators: SFSP, VACB members, stakeholders. Policy dialogue important
3. Teaching materials support	Priority 2.	Priority 2. Support development of agroforestry teaching materials	Priority 2. Development of appropriate and relevant teaching materials	Priority 5	Priority 2. Form a national group with people from different institutions, and from Ministries. Suggests support to AF teaching materials development
4. Multi-disciplinary workshops	Focus on job opportunity workshops and market studies		Priority 3. People are not informed—need to brief stakeholders on competencies of AF graduates.	Priority 2. There is need to clarify what agroforestry is	Priority 5. Job market study in Vietnam desired.  Linkages among national and regional institutions important
5. Short courses/staff development		Priority 3		Priority 3  Add activity: Support seminars and workshops	Priority 3.
6. Students theses research and teachers field projects	Include support to research equipment		Joint research grants for students and advisors proposed		Priority 4. Support theses on agroforestry development



## SEANAFE protocol and management

How should SEANAFE be 'governed'? This issue was discussed in an afternoon plenary session on 27 April. Mr Chun K Lai introduced the discussion by giving some ideas on options. He said that networks are member-based and self-governed. Therefore, it is up to the General Meeting to define the protocol, management structure, and administrative procedures for governing SEANAFE.

Some burning questions are:

- What governance mechanisms do we need to lead SEANAFE into the next millennium?
- What is the minimal level of administration and bureaucracy needed to run SEANAFE?
- How best to link the network with ICRAF and in particular the ICRAF-based SEANAFE support project
- What oversight mechanism is most desirable? A Steering Committee? An advisory group? Other structures? Or can the network do with no mechanism at all?
- Network membership issues: Inclusive or exclusive? Number of countries? How many institutions? Fees? Charter?

What should our working principles be, and how should we govern ourselves? What do we want SEANAFE to look like? Should it be informal or formal, simple or complicated? Should it be bottom-up or top-down; flexible or rigid? Two models of looking at SEANAFE governance was presented (Figure 3).

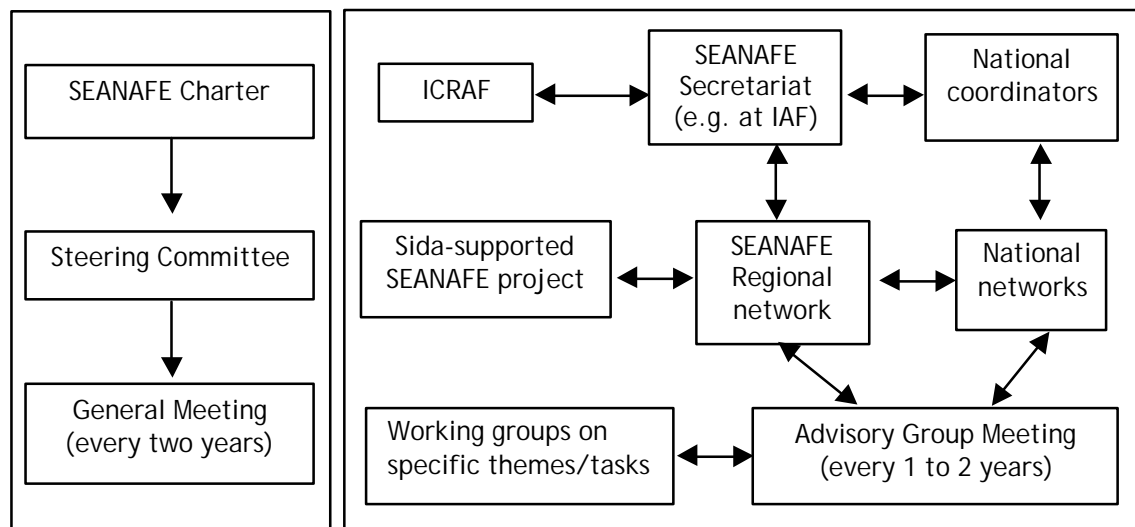


Figure 3. Two options for SEANAFE governance.

## Discussion on SEANAFE governance

After this introduction the floor was opened for discussion. The salient points are summarized here.

Network functions:

- One example of how an activity-based network can function is the Social Forestry Support Programme in Vietnam. This network functions around activities to be carried out during a certain time. Different activities are hosted by members. This constitutes the network, there is very little formal structure.
- SEANAFE needs a formal, but simple way of management. If this organization is not formalized, who can control the management?
- There is need to formalize and legitimize SEANAFE, maybe through a Charter.
- SEANAFE will operate in a continuum. Depending on the activity, its operations can be both bottom up and top down. But SEANAFE should aim at being informal rather than formal, simple rather than complicated. SEANAFE should be flexible.

National networks:

- UPLB and ICRAF Bogor can stimulate national networks, to be connected with SEANAFE.

SEANAFE board and board members:

- SEANAFE will need a board, headed by a president/coordinator. Members from each of the five countries can form national networks that nominate board members
- The functions of the board is to make policy

Secretariat:

- A secretariat is needed for daily operations. And there is need to have a head for the secretariat. The location of the secretariat is an issue
- A lot of money can be saved by placing the secretariat at ICRAF. But to be sustainable, it has to move out of international institutions. Multiple sources are more likely to be raised if the secretariat is located outside an international institutions. It has to sink or swim at one point!
- Keep the secretariat in one place, when it moves it is a problem! SEANAFE just started. It needs a strong foundation
- In the short term, the secretariat should be located in an international organization: ICRAF or SEARCA
- It is recommended to host a 4-year secretariat at the Institute of Agroforestry, UPLB
- The location of a secretariat is a delicate balance. On one hand, the location of the secretariat in a member institution strengthens the ownership of the network. On

the other hand, at least initially, the bulk of resources available for SEANAFE activities is the ICRAF-based SEANAFE support project.

Sustainability:

- SEANAFE is a longterm activity while the ICRAF-based project is short-term. There is need to already look at the situation of SEANAFE after 2002. The sustainability is important
- Shall SEANAFE operate for 4 years and then end? Probably, the objectives of SEANAFE can not be reached in 4 years. It will need more time
- Alternative and multiple sources of funding are needed for sustainability

ICRAF links:

- The links with ICRAF are important. ICRAF's main concern is research, while SEANAFE focuses on education. By linking to ICRAF, its research can benefit agroforestry education in the region.

## Recommendations

### The Board

SEANAFE 1<sup>st</sup> General Meeting reached a consensus that SEANAFE should to be governed by a board. The Board should have one member from each country. It was agreed that each country should nominate a Board Member before the end of the General Meeting. It was also agreed that Ex-Officio Board Members are the SEANAFE Coordinator and the ICRAF-based project leader of the SEANAFE support project.

Functions of the SEANAFE Board:

1. Secure fulfilment of SEANAFE goals and objectives, including procedures for secretariat staff
2. Clarify the role of the secretariat
3. Formulate policies
4. Be involved in major decisions about the network activities
5. Seek financial support
6. Approve the workplan and budget and liase with the ICRAF-based support project
7. Monitor and evaluate activities
8. Gain support from national institutions for national networks
9. Think about strategy, process and method, provide conceptual framework for SEANAFE

In the first six months the work of the Board would focus on consolidation of SEANAFE management, and the development of network activities.

## Members of the Board

After internal consultations in the five country groups, the following members were selected on the first SEANAFE Board:

Dr Sambas Sabarnurdin

Dean, Faculty of Forestry, Universitas Gadjah Mada, Bulaksumur, Yogyakarta, Indonesia

A representative of National University of Laos. Later confirmed:

Mr Thongly Xayachak

Vice Dean, Faculty of Agriculture and Forestry, Vientiane, Lao PDR

Dr Anake Topark-Ngarm

Dean, Faculty of Agriculture, Khon Kaen University, Khon Kaen, Thailand

Mr Nguyen Van So

Agroforestry Lecturer, National University of Ho Chi Minh City, Vietnam

Dr Romulo A del Castillo<sup>4</sup>

Director, Institute of Agroforestry, College of Forestry and Natural Resources, University of the Philippines Los Baños (UPLB), Laguna, the Philippines

Ex-officio member:

Per Rudebjer

Project Leader, ICRAF- Southeast Asia

## Secretariat

The General Meeting participants had two different views of how the SEANAFE Secretariat may be set up. Although there was a consensus that in the long run the secretariat need to be run by and located at a member institution, (comparisons were made with APAFRI<sup>5</sup>, that initially was located at FAO in Bangkok, but now has moved to Universiti Putra Malaysia) the views differed regarding the initial location of the secretariat. The two options mentioned were:

1. An ICRAF-based secretariat. The main advantages would be to save costs in the initial establishment of the secretariat. The link to the support project would be facilitated. On the negative side would be a weaker direct link the university system.
2. A member-based secretariat (UPLB Institute of Agroforestry was suggested). The pros would be to already from the start have a firm foundation in the region's educational system, which in turn would benefit SEANAFE's sustainability, while the cons are

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<sup>4</sup> Dr Romulo A del Castillo has later been appointed the Coordinator of the SEANAFE Secretariat, and is thereby an Ex-officio member of the SEANAFE Board. Replacing him as elected Board member for the Philippines as from September 1999 is Dr Juan A Nagtalon, President, Misamis Oriental State College of Agriculture and Technology (MOSCAT), Claveria, Misamis Oriental.

<sup>5</sup> The Asia-Pacific Association of Forestry Research Institutions

related to availability of financial and human resources required, and a more complex liaison with ICRAF.

In an exploratory voting, a majority of the participants expressed a preference for the latter option. However, the time available did not allow a deeper analysis of the underlying factors: the functions of the secretariat; staffing and other resource requirements, the protocol needed within university to formalize a secretariat, and the sharing of responsibilities among the secretariat, the Board and ICRAF. These questions are also intimately linked to the forthcoming SEANAFE Charter. These issues were therefore handed over to the new Board for further analysis and decision.

## Field trip

On Wednesday, April 28, 1999, UPLB IAF hosted a field trip to various agroforestry projects and some historical landmarks in Laguna, Philippines. The places visited were Liliw, Nagcarlan, and Calauan, all in the province of Laguna, some 40 kilometers from Los Baños in the southern part of Luzon.

During the trip, we were able to observe varying farming systems and other livelihood activities to which most of our farmers are dependent for their living.

The first stop was Mr Arturo Brul's farm. Climbing up the rather steep roads, we observed farms dominated by tomatoes, rather intensively cultivated, with a pesticide input. Mr Brul himself is a tomatoe farmer/producer: a considerable part of his 4 hectare farm was planted with rows of tomatoes. In steeper parts of the farm he used the Sloping Land Agriculture Technology (SALT) concept, with a tree/shrub component consisting of *Gmelina*, *Gliricidia* and various fruit trees, such as durian and jackfruit. Mr Brul also collected indigenous tree species which he planted in an escarpment on the farm. Unfortunately, our visit was cut short by a heavy downpour, in which all participants got soaked!

The lunch stop took place at Atty. Montiero's farm/Liliw Resort. This farm had a character of demonstration farm, with a great variety of herbs, crops, shrubs and trees. He also kept honey bees. Collection of sap from coconut palm provided the ingredient for 'Iambanog' production, a local palm wine.

In the afternoon we visited the shop of Mr Ed Viriña in Bambang, Nagcarlan, Laguna. An inventor, he had developed an apparatus for extraction of essential oils. Lemon grass *Cymbopogon citratus*, was one of the raw materials used. We were told, for instance, that the lemon grass contains 0.4% of oil, and that the actual conversion rate can be around 0.3%. The oil sell at around 2000 Peso per liter. The other plant materials used in the production of essential oil are Citronella (*Cymbopogon winterianus*) and Poucholi (*Pagostemon cablin*).

The last stop of the field trip was at a local NGO-operated establishment called 'Centre for Rural Technology Development (CRTD)' in Calauan, Laguna. The CRTD focuses on developing intensive lowland agroforestry or integrated farming systems for as small land holdings as 0.2 hectares. The aim is that with intensive and diversified production system a family should be able to earn their living even where land becomes scarce. The technologies are refined in demonstration farms, and shared with farmers in the districts through local units of the NGO. CRTD deals with all aspects of the farming system from coconut shoot '*ubod*' production, small ruminants, improved chicken, cutflower production and Tilapia 'fingerlings' production. Intensive vegetable production is also a key feature.

In all, it was a very interesting day, that displayed the diversified agriculture in the rural areas in the vicinity of Manila. A special thanks was expressed to Dr Aleli Luna of the Ecosystems Research and Development Bureau (ERDB) and Prof. Nestor Lawas, UPLB-IAF, who served as field trip coordinators.



The 32 funding members of SEANAFE made a symbolic 'pinning' of their commitment to the new network.





# Key note papers

## Issues in agricultural education in Southeast Asia<sup>6</sup>

*F P Fellizar, Jr<sup>7</sup>, E C Cedicol<sup>8</sup>, R G Bernardo<sup>9</sup>, A K M Chatterjee<sup>10</sup>*

### Introduction

Prior to 1997, the Southeast Asian region had experienced the fastest economic growth in the world. The regional economic flu, despite all its attendant problems, had only slowed down this growth, rather than eliminating the gains of the previous years. The primary catchword among Asian countries is still industrial modernization, with Indonesia, Malaysia and Thailand 'graduating' into recently industrializing countries, to join the ranks of newly industrializing countries (NIC) such as Hong Kong, Singapore, Korea, and Taiwan, the four tigers in Asia.

While industrialization is the battlecry among all Southeast Asian countries, Figure 1 highlights the continuing significance of agriculture in the Southeast Asian region. Among all countries, the contribution of agriculture to national Gross Domestic Product (GDP) was highest in Lao PDR and Myanmar. These countries, and Cambodia and Vietnam, are either recovering from or still in the grips of internal conflict. The rest have gained some sort of political stability and have diversified into industries other than agriculture, which explains the decreasing contribution of agriculture to their GDP.

Contrary to some perceptions, the importance given to industrialization only highlights, rather than diminishes, the value of agriculture in the region. As a net exporter of agricultural products and raw materials, the key towards successful industrialization in the region is the recognition of how agriculture contributes to domestic and international political and economic progress, and building the industrialization framework on these values. There will thus be a complementation and integration of principles between 'sustainable agriculture' and 'sustainable industries', through sustainable 'agroindustries'.

This paper attempts to present the continuing importance of agriculture in the Southeast Asian region, and how agricultural education has, or needs to be, evolved to respond to growing, more complicated, agricultural needs of the region and of the world.

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<sup>6</sup> Paper presented at the First General Meeting of the Southeast Asia Network for Agroforestry Education (SEANAFE), 26-28 April 1999, UPLB, Los Banos, The Philippines

<sup>7</sup> Deputy Director, SEARCA, College, Laguna, Philippines

<sup>8</sup> Graduate Education and Institutional Development (GEID) Officer, SEARCA

<sup>9</sup> Research Associate, Natural Resources Management Program (NRMP), SEARCA

<sup>10</sup> Writer, Information Resources Development Program (IRDP), SEARCA

## Status of and trends in agricultural education in Southeast Asia

Agricultural education encompasses not only the traditional learning institutions such as colleges, universities, and agricultural learning centres, but also the informal community structures and workgroups that facilitate farmer-to-farmer exchange of information. Agricultural education involves not only the agricultural educators, researchers, and extension and development workers, but more importantly the entire farming households, in which each member has a direct role and stake in agricultural development.

The development of human resources has long been recognized as the backbone of progress, a critical element towards continued enhancement of existing knowledge and practices. This is the rationale for the provision of free primary education in many countries in the region. In over twenty years, there has been a tremendous improvement in the provision of basic educational services across Southeast Asia, such that literacy rates in most countries have increase to about 84-94% (Table 1), with the exception of Cambodia and Lao PDR, which are slowly recovering from the difficulties of internal conflicts. Equitable access to education is still a major issue, with literacy among women still much lower than male literacy although the gap has narrowed in the last twenty years.

Table 1. Adult literacy rate in Southeast Asia.

Country	1975 (%)			1996 (%)			Percent Change
	Female	Male	Mean	Female	Male	Mean	
Cambodia	-	-	-	22	48	35	-
Indonesia	45	70	58	78	90	84	45
Lao PDR	-	-	-	44	69	56	-
Malaysia	47	69	58	78	89	84	45
Myanmar	58	84	71	78	89	84	18
Philippines	81	84	82	94	95	94	15
Singapore	54	83	68	86	96	91	34
Thailand	70	87	78	92	96	94	20
Vietnam	78	91	84	91	97	94	12
Average	62	81	71	74	85	80	27

Source: After Fellizar, 1998.

In the Philippines, the twin goals for human resource development—people empowerment and global competitiveness—have been adopted to guide the country's quest for rapid industrialization and development (Alcala 1998 in Fellizar, 1998). The same is generally true for most, if not all, countries in the region. At a place and time however, where poverty is predominant and financial capital is very limited, the general tendency is still the intensification of production, rather than environmental protection and/or conservation. While national governments advocate and espouse sustainable development paradigms, hunger-driven farmers, fishers and money-greedy capitalists

continue ravaging agricultural and natural resources due to the lack of adequate extension and law enforcement. In these cases, agricultural education, becomes virtually ineffective.

The emphasis on agricultural prosperity in the 1970s and 1980s has contributed to the proliferation of agricultural education institutions, numbering more than a hundred throughout Southeast Asia at present (Table 2). Traditionally, agricultural colleges and universities are considered to have three specific functions: teaching, research, and extension. They still maintain these functions, but the dimensions have considerably changed. This is due to several factors such as lack of adequate resources, poor research and extension programs, and inadequate professional and technical linkages with other extension and education advocates and practitioners. Therefore, many educational institutions still espouse the traditional production-orientation that had been so in demand and successful in the 1970s.

Table 2. Agricultural universities and colleges in Southeast Asia.

<b>Country</b>	<b>Number of tertiary schools offering agriculture or agriculture-related courses</b>
Brunei Darussalam	1
Cambodia	1
Indonesia	28
Lao PDR	1
Malaysia	1
Myanmar	nd
Philippines	= 51
Singapore	nd
Thailand	13
Vietnam	3

Table 3 presents the traditional and new roles of agricultural colleges and universities. Evolving paradigms have led to the rise of multidisciplinary and integrative approaches to research and education, and these are reflected in the increasingly important yet complex functions of these institutions.

Table 3. The evolving roles of agricultural education institutions in the region (After Sung, 1996).

Areas	Traditional roles	Newly evolved roles
Extension and Policy	<ul style="list-style-type: none"> <li>• Diffusion of agricultural technologies and information to increase agricultural productivity among farmers</li> <li>• Provision of technical advice to farmers</li> </ul>	<ul style="list-style-type: none"> <li>• Diffusion of agricultural technologies and information</li> <li>• Provision of technical advice to farmers and policy makers</li> <li>• Diffusion of technical information on land use, environment, and natural resources management</li> <li>• Agricultural services (e.g., credit, marketing) and structural reforms (e.g., community organizing, empowering informal community structures)</li> </ul>
Research	<ul style="list-style-type: none"> <li>• Development of technologies for increasing agricultural productivity</li> <li>• Compartmentalized research or single discipline studies</li> <li>• Focus on traditional crops and lowland ecosystem</li> <li>• Livestock production</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainability of crop production</li> <li>• Organic production</li> <li>• Development and introduction of soil and water conservation technologies</li> <li>• Integrated pest management</li> <li>• Managing farm pollution</li> <li>• Multi and/or inter-disciplinary approach</li> <li>• Agroindustrialization</li> <li>• Biotechnology</li> <li>• Management and inter-connectivity of resources across uplands, lowlands and coastal ecosystems</li> <li>• Integration of livestock production in farming systems</li> <li>• Environmental protection</li> <li>• Protected area management</li> <li>• Environmental pollution</li> <li>• Environmental impact assessment</li> <li>• Food security</li> </ul>
Education	<ul style="list-style-type: none"> <li>• Providing good quality agricultural training/ education</li> </ul>	<ul style="list-style-type: none"> <li>• Providing good quality agricultural training/education</li> <li>• Developing responsive, issue- and demand-driven agricultural curricula, education, and training programs</li> <li>• Developing innovative tools and methodologies to provide incentives for increasing agricultural professionals/ practitioners</li> <li>• Networking among educational institutions</li> </ul>

Trends in agricultural education therefore are geared towards complementation, partnerships, and information networking. Advances in information technology have bridged physical distance, rendering information virtually available at the tip of one's fingers. There is therefore much room for growth and innovation—opportunities that should be seized if agricultural education has to lead agricultural modernization. Some specific examples:

- In Vietnam, where the tertiary education had been modeled after that of the Soviet Union's, the government merges small universities and colleges into a few, strongly-focused, western-modeled, universities. While higher education institutions are still largely under the direct control of the Ministry of Education and Training (MOET), heads of universities and academic departments are increasingly being given greater freedom in managing their internal affairs. And foreign education is encouraged to further equip the country to respond to a market-oriented economy. Agricultural education in the country is geared towards agroindustrialization and natural resources conservation.
- In Indonesia, the government has formulated three strategic programmes geared towards carrying out the mission of higher education. These programs are: 1) Higher Education management programs, 2) Programs for increasing the quality and relevance of higher education, and 3) Programs for equity. Likewise, three areas of action have been identified as critical for Indonesia to contribute in accelerating agricultural development in the region, particularly within the East Asia Growth Area (EAGA), namely: 1) Active involvement of educational institutions in human resources development, especially for prioritized productive and support sectors; 2) Active involvement in research programs with emphasis on policy recommendations; and 3) Intensification of partnership and cooperation as well as increased awareness and involvement in development processes (Hasanuddin, 1996).
- In Malaysia, there has been an increasing demand for distance learning by 'non-traditional' students or even agricultural practitioners who could not leave their stations or place or work for prolonged periods of time to undertake formal courses. At the Universiti Putra Malaysia (UPM), the response is wide application of information technology in agricultural education and bioindustrial services.
- In Thailand, the need for more careful and long-term educational planning for future generations has been addressed through the integration of higher education programs into its national development plans. The recent national development plan takes a more aggressive and dynamic approach in responding to global environmental changes. Education programs particularly in the tertiary level have put more premium on curriculum development towards more relevant programs that meet modern demands.
- In the Philippines, some initiatives to develop the agriculture sector include:  
1) Development of highly-trained manpower in agriculture; 2) Strengthening of

regional state colleges and universities and providing them fiscal autonomy; and 3) Rationalizing agricultural education system. The Agriculture and Fisheries Modernization Act (AFMA) of 1997 also mandates the establishment of a National Agriculture and Fisheries Education System (NAFES) aimed at unifying, coordinating and improving academic programs in agriculture and fisheries, and upgrading the quality, ensuring sustainability, and promoting global competitiveness at all levels of agriculture and fisheries education, among others.

### **Issues in agricultural education in Southeast Asia**

- Slow rate of professional advancement. The inadequate funding for graduate fellowships continues to delay the professional advancement of a big proportion of promising young scientists, academics, managers, administrators and researchers. Traditional promotion procedures and bureaucracy also constrain the advancement of young, qualified staff to senior positions.
- Inadequate funding. Many Philippine universities, colleges and government institutions lack qualified research staff, as well as adequate graduate facilities and equipment. In some cases where staff members are provided the opportunity to undertake graduate education, they are not given new or higher positions commensurate to their acquired degrees, nor the facilities or support that would enable them to apply their learning.
- Graduate education must respond to emerging global needs. Graduate curriculum and course offerings must reflect the growing concerns, issues and opportunities worldwide. The failure to address this issue has contributed to the education and employment misfit, which contributes to brain drain and losses in investments of the government, families and individuals, in higher education. The government must institute reforms to enhance employment benefits and opportunities in the country.
- In Southeast Asia, there has been a tremendous interest in understanding and applying the concepts of agroindustrialization, primarily to add value to traditional agricultural commodities. Agroindustrialization drives however, must be tempered by an equal concern for environmental protection. To some extent this has already been accomplished in the University of the Philippines Los Baños (UPLB) through the incorporation of sustainable agriculture courses in the curriculum, and at the Universiti Putra Malaysia (UPM) which has shifted its curriculum from being content-oriented to process-oriented, and its teaching approach from traditional to facilitative.
- Academic standards must be appropriately and carefully set and maintained. Education is a profitable enterprise, and the unregulated proliferation of private schools and educational institutions may only produce poor-quality graduates who are ill-prepared to handle professional responsibilities.

- The inability of many agricultural practitioners and professionals to attend formal courses in agricultural education institutions point to the need for enhancing distance education, and the application of information technology (IT) in providing easier access to agricultural education. More area-based, stakeholder-specific training courses also need to be developed to equip them with the necessary resource management knowledge and skills, based on actual conditions in the site.
- Agriculture and agroforestry are critical and fascinating sectors and areas of study. Yet enrolment trends show that there seems to be a low interest among university graduates to become involved in agricultural enterprises. In Indonesia, majority (93%) of higher education students in the country aspire to become civil servants or company employees. Government incentives are needed to establish a strong agricultural human resource base and make agriculture competitive with other sectors.
- Active networks and partnerships must be forged for sharing information, knowledge, and experiences, among various countries, educational institutions, and other offices engaged in agricultural research and development. This may be in the form of joint research, computer networking, and faculty or student exchanges, among others. An even stronger imperative is an inventory of research across the region, and the application of knowledge and lessons learned from such studies to actual farm environments.
- Innovative tools and methodologies must continue to be developed to adequately respond to the educational needs of agricultural stakeholders (e.g., farmers, fishers, forest dwellers, rural communities, etc.). Community-based and other facilitative approaches, wherein scientists, technical experts and farmers combine knowledge and skills, have been quite successful so far. Yet, cost-effective, replicable extension methodologies remain elusive or at least undocumented.

### **The role of SEAMEO SEARCA<sup>11</sup>**

The evolution of agricultural education only accentuates SEARCA's critical role in the Southeast Asian region. As a provider of high-quality human resources in agriculture, SEARCA strives to produce graduates who can compete globally in terms of competence and skills—graduates with leadership qualities and whose orientation can help bridge cultures and forge ties across countries. The over 700 SEARCA graduate fellows all over the region equally share the responsibility of contributing to regional development, a role signified by their formation of the Regional SEARCA Fellows Association (RSFA) in 1992. The regional partnerships developed among SEARCA fellows also help facilitate regional and in-country projects aimed at responding to the pressing problems of environmental destruction and the impact of the regional financial crisis on agriculture.

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<sup>11</sup> Southeast Asia Ministers of Education Organization (SEAMEO), Regional Centre for Graduate Study and Research in Agriculture

SEAMEO SEARCA serves as a catalyst in providing assistance to regional agricultural colleges and universities in the integration of sustainable agriculture concepts in the agriculture curricula. Since 1995, SEARCA has collaborated with state colleges and universities as well as conducted seminars and conferences to enhance understanding of sustainable agriculture and the processes involved in integrating sustainable agriculture principles in agriculture curricula. The Centre strives to maintain its regional relevance and continues to link its present human resources development programs with the demands of the future. By doing so, it hopes to maintain its status as a regional centre of excellence by responding to the challenges of global competitiveness in the areas of agricultural education and research.

SEAMEO SEARCA hopes to continue enhancing agricultural graduate education through the Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources, which it established in 1989. The University Consortium's program components on student exchange, faculty exchange, research fellowship, professorial chairs, and thesis grants, allow the needed exposure of students and faculty to the education and research systems other countries. In 1998, the University Consortium also approved the implementation of a Distributed Learning Project which would allow the offering of the Master of Science in Sustainable Resource Use on mixed modes (i.e., distance or residence; off-campus or face-to-face). The project hopes to cater not only to Southeast Asian students but also to other peoples of the world.

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# Through the grassroots towards the trees—exploring participatory curriculum development in forestry education in Vietnam<sup>12</sup>

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## Introduction

In Vietnam, and in many other countries throughout the world, a new and different type of forestry is emerging. Farmers are playing an increasingly active role as managers of forest land in combination with other natural resources, frequently integrating forestry activities within their land-use systems. In some cases, these systems build naturally upon existing practices, whilst in other situations farmers must go through a complex learning process in order to utilize forest land in a sustainable way. This creates a need by farmers for support and guidance, and the facilitation of common learning processes based on participatory approaches, involving a wide range of stakeholders. New sets of skills, knowledge and attitudes are needed by those persons, or facilitators, who must meet the changing and challenging demands from farmers. Innovative educational approaches are therefore required, if forestry education is to be both reactive and proactive in the changing context. This paper describes an approach used in Vietnam which aims to achieve a high level of participation of different stakeholders, including farmers, within the process of curriculum development. It aims to bring about improvements in both the quality and the effectiveness of university-level forestry education and training programmes in the present context of dynamic change.

## A paradigm shift in forestry education

In the past, most forestry training has been strongly technology based. Now there is a need to build an interdisciplinary capacity in many foresters and extensionists, encouraging an understanding of social principles and processes. New target groups for training will emerge, ranging from policy makers to farmers, each group having different training needs. Forestry education will have to take into account the varied and multiple production systems of farmers living under highly diverse conditions, the needs and capabilities of rural people, and the entire relationship between local people and the forests and trees growing on land under their control (Helvetas, 1997). The focus will no longer be on uniformity and technology; forestry training programmes will need to

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become more relevant and flexible; diverse and yet well integrated (Taylor, 1998a). This need is being identified in many countries, and also in Vietnam, where government policy has established a focus on 'social forestry'<sup>13</sup>

The shift in focus from 'traditional' (technically-oriented) to a 'new' (combined technical/social/economic orientation) type of forestry places additional demands upon those institutions which train existing and future extensionists and foresters—to interact with community members and facilitate forestry-related activities within integrated development programmes. Garforth (1996) suggests that innovative forestry training approaches should differ from previous forestry training in three main ways. Foresters need a new range of technical skills, plus additional social, process and non-technical skills. They need to learn how to use these skills in different forms of intervention, and how to plan, implement and evaluate these interventions jointly with local people (both groups and individuals), and also with local institutions (Table 1).

Table 1. Requirements for forestry training (after Garforth, 1996).

Technical skills required by foresters	Social, process and non-technical skills required by foresters	Interventions required from foresters
<ul style="list-style-type: none"> <li>Some forestry practitioners may continue to manage extensive areas of forests in order to maximise the economic benefit to a State organization.</li> <li>Foresters should aim also to enhance opportunities for families to maximise the socio-economic benefits from management of both small stands of forests and scattered trees, using appropriate technology.</li> </ul>	<ul style="list-style-type: none"> <li>Foresters will deal in their working environment not only with forests and trees but, more importantly, with the people who are managing trees.</li> <li>Foresters will need to become good teachers, problem-solvers, decision-makers, communicators and facilitators, and also good learners, willing to absorb and utilize knowledge from the farmers, as well as supplementing it.</li> </ul>	<ul style="list-style-type: none"> <li>In order to maximise the social and technological impact from any activity, foresters need the capacity to undertake and support suitable interventions.</li> <li>They will need to identify, adapt and apply appropriate technologies through participatory processes in collaboration with different stakeholder groups, including individuals, groups and institutions.</li> </ul>

Changing the nature of forestry education and training is a complex process and requires careful management. There may be strongly held beliefs amongst both foresters and educators which deter innovations or new developments. These beliefs should be taken into account, along with the beliefs of those who perceive a need for change. Managing this change process, and creating a facilitating environment for educational

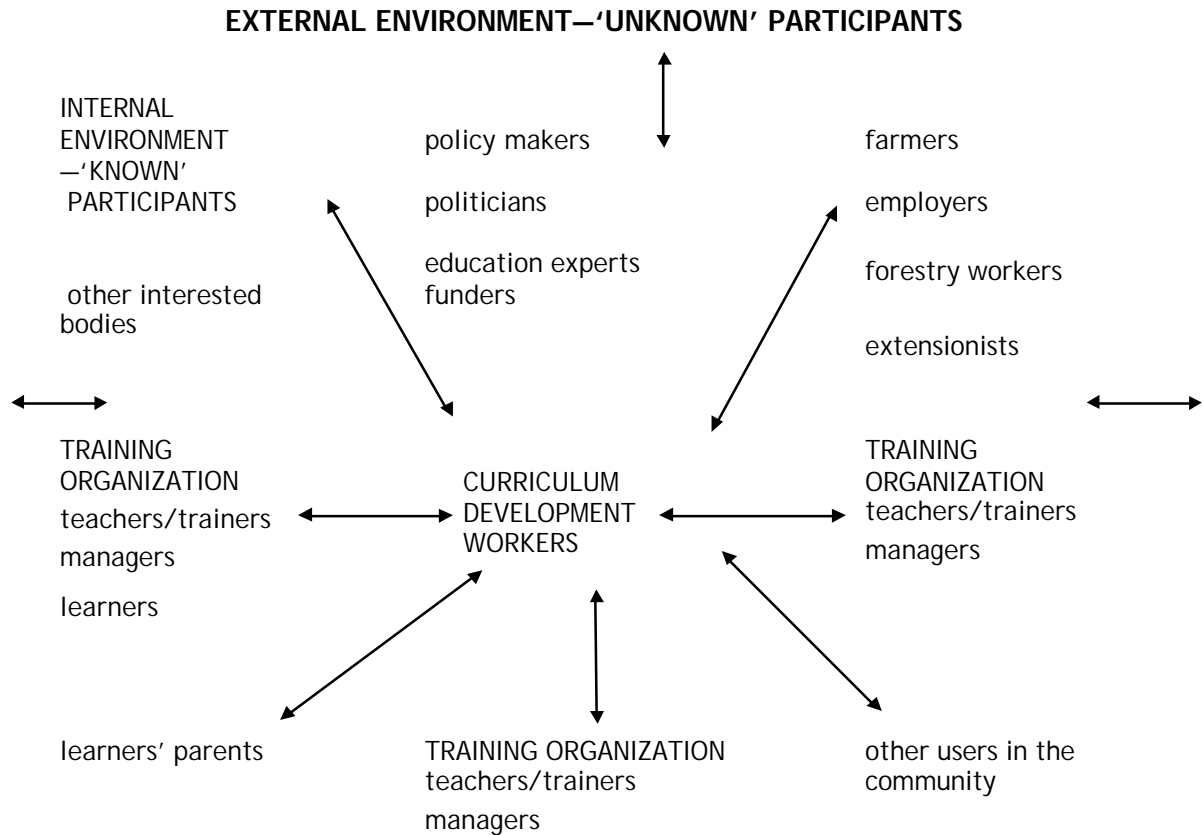
<sup>13</sup> In Vietnam, state forestry is being turned, increasingly, into people's forestry or, as this kind of forestry is called, 'social forestry' (*lam nghiep xa hoi*); forestry of the people carried out by local people for their own benefit. The transfer of management authority over the open forest land, as well as over the forests, is encouraged actively by the State. In essence, the State now recognises that farmers, previously regarded as responsible for the destruction of the forests, are now the force that can best protect the forests and secure the best use of the forest land.

development is difficult to achieve, but evidence suggests that the possibility for successful outcomes is enhanced greatly by encouraging meaningful participation by all relevant stakeholders in the curriculum development process.

## **Why is participation needed?**

Experience from different contexts demonstrates clear linkages between participation and the effectiveness of learning (Pretty, Guijt, Thompson and Scoones, 1995). Many extension programmes have now adopted strategies which are based on a participatory approach. Through a joint learning process facilitated by extensionists or other support persons, it has been demonstrated on many occasions that rural people are able to analyse, plan, take action, monitor and evaluate a range of issues and activities (Chambers, 1997).

Just as participation in extension and community development activities can enhance the learning process, participation in the development of education programmes should also lead to more successful outcomes and increased effectiveness in planning, implementation and evaluation of education and training. Curriculum development is central to the teaching and learning process, and guides the way in which learning is facilitated. A participatory curriculum development approach (PCD) aims to develop a curriculum from the interchanges of experience and information between the various stakeholders in the education and training programme. PCD seeks to identify all the stakeholders, including educators, researchers, policy makers, extensionists, foresters and farmers. It seeks to involve them in the construction of the curriculum—the full curriculum, including not just the subject matter being taught but also the experiences and activities which the learners engage in during the course. It seeks to explore with them, collectively or individually, their views about the desired learning objectives and the processes intended to bring about the achievement of those objectives. Rather than belonging to a small select group of experts, the process of curriculum development now involves as many of the stakeholders as possible, drawing upon their experience and insights (Rogers and Taylor, 1998), in a structured approach to curriculum planning, implementation and evaluation (Figure 1).



(From: Rogers and Taylor, 1998)

Figure 1. The participatory curriculum development model.

## Constraints to participation

Although lessons learned from extension settings suggest that participation should enhance the curriculum development process, rural people are rarely involved in the development of rural or natural resources education and training programmes. They may feel marginalized, or that they lack the knowledge and skills which enable them to participate as fully as they would wish. It is somewhat paradoxical that participatory approaches seem to have been adopted more widely by grass-roots extension organizations than by universities and formal teaching institutions which often purport to be the leaders in their field.

If participation is so desirable, why then is it so difficult to achieve? Staff of formal teaching and training institutions have cited many constraints on participation by different stakeholders in the development of education programmes (Table 2).

Table 2. Constraints to stakeholder participation in the development of education programmes

- |  |
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| <ul style="list-style-type: none"> <li>• unrealistic expectations of stakeholders may be raised at an early stage and may not be met</li> <li>• involvement of stakeholders may be costly in terms of their time and effort in relation to a meagre level of income</li> <li>• stakeholder involvement may be tokenist in some cases, creating resentment</li> <li>• bringing groups of people together has logistical implications which may be beyond the capacity of the training organisers</li> <li>• creating a mechanism by which different stakeholders can work and interact on an equal basis is complex due to different perceptions, experience, educational background and understanding of the wider curriculum development process</li> <li>• participation is demanding on time and resources; it is not a 'quick-fix' approach, and this may alienate some policy makers, donors and practitioners</li> </ul> |
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(From: Taylor, 1998b)

In addition, there are a number of potential constraints on the participation of farmers in the curriculum development process (Table 3).

Table 3. Potential constraints on the participation of farmers in the curriculum development process

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| <ul style="list-style-type: none"> <li>• training course developers think that they know best, and not value the opinions of the farmers; they may be unaware of the reality of the rural context and lack field-based experience</li> <li>• farmers are suspicious of or intimidated by the training course developers because they think they are really looking for other types of information, or because they have bad experiences of training which was not useful</li> <li>• farmers are not aware of where their training needs lie, and what possibilities there are for training</li> <li>• discussions about training needs are dominated by certain powerful groups, e.g. rich farmers, male farmers, at the expense of poor farmers and women farmers</li> <li>• sometimes it is unclear whether training should be dealt with at community level or at an individual household level (especially in the case of forestry-related training)</li> <li>• 'farms' are often dispersed over a very wide area, and course developers cannot reach some farmers to discuss their needs. Sometimes it may be difficult to identify what is meant by a farm, or the complex range of integrated activities which comprise the broad description of 'farming'</li> <li>• there are shortages of resources and also logistical problems in involving farmers in a meaningful way; poor farmers may not be able to afford the potential loss in production by spending time away from their farm.</li> </ul> |
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These constraints are often real enough. Course developers may feel quite genuinely that they can do their job well without engaging with other stakeholders, and often they

can do a reasonably good job. Farmers may feel that developing training courses is something best left completely to the ‘experts’. By leaving rural people out of the curriculum development process, however, many opportunities are being lost and, in some cases, the achievement of desired educational outcomes is compromised or missed altogether. So, what are the potential benefits achieved through increased participation in curriculum development? Some of these are outlined in Table 4.

Table 4. Potential benefits gained from the PCD approach

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|---|
| <ul style="list-style-type: none"> <li>• increased opportunities for networking of groups and individuals</li> <li>• groups and individuals normally marginalized may become included in negotiations and dialogue</li> <li>• opportunities for discussion and reflection increase</li> <li>• capacity of curriculum developers to produce relevant, flexible, diverse and integrated curricula is increased</li> <li>• chances of a successful, sustainable outcome from the curriculum development process are increased</li> <li>• the framework for a dynamic curriculum development process is created as new linkages and lines of communication are established</li> <li>• stakeholders gain responsibility for various stages of the curriculum development process; this increases motivation and commitment.</li> </ul> |
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(From: Taylor, 1998b)

So far this discussion has been rather theoretical. Some experiences and lessons learned through the use of a PCD approach in the Social Forestry Support Programme in Vietnam provide an opportunity to examine these issues from a more realistic perspective.

## The PCD process in Vietnam—a case study

### Background to the SFSP

The Social Forestry Support Programme (SFSP), funded by the Swiss government (SDC) and managed by Helvetas, started in Vietnam in 1994. The main aim of SFSP Phase I 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 30km west of Hanoi. In the first three years of its operations, the SFSP managed to clarify the need and identify appropriate mechanisms for reforming the education of professional foresters, in order that they become more skilled, knowledgeable and responsive to the current changes in forestry practices. This was achieved mainly by supporting curriculum development activities, based on a PCD approach, at the Forestry College within the Social Forestry Training Centre. A working group was formed to develop strategic plans for curriculum development; teachers from several other University forestry faculties also participated in the activities of this group—a rather unusual situation in the Vietnamese context—and an important factor in the subsequent development of the partnership on which Phase II

of the programme is based. A number of College staff received training in the basic principles of participatory curriculum development, as well as in learner-centred teaching methodologies. Some College staff also became involved as consultants in several external projects, providing field-based training inputs. This exposure to the field reality was an important opportunity for staff to learn through experience and, therefore, to enhance their contribution to the development of curricula for forestry degree students.

SFSP Phase I was completed in the middle of 1997 and Phase II, a four and a half year programme which involves a significant expansion of the scope and scale of its activities is approaching its half-way point. Support in SFSP Phase II is provided in three main areas, human resources development, generation of knowledge and information exchange. Within SFSP Phase II there are now seven Working Partner Institutions. Five of these are tertiary level educational institutions offering degree courses in forestry, including the Forestry College of Vietnam. The other two partners are a provincial extension organization and a national research institute, whose involvement means that a strong link should exist between curriculum development and teaching and learning at institutional level with the realities of the field, thus broadening the base for learning.

Although the forestry faculties in Vietnam have different levels of experience of delivering social forestry education and training programmes, all are preparing to introduce major changes in their respective curricula to incorporate courses in social forestry. Agroforestry training is provided as part of the overall forestry degree programme, and agroforestry will certainly be a key component of any 'social forestry' training programme. Ultimately, it is likely that the overall forestry curriculum will also undergo change, as the policy and field contexts are better understood, and the capacity of teachers to develop innovative curricula is increased.

## **Use of the PCD approach in SFSP**

### **Stakeholder identification and analysis**

PCD normally begins with a stakeholder analysis, usually performed by a small team who are managing the curriculum development process. It involves the identification of the key stakeholders in the curriculum development process, an assessment of their interests, and the way in which these interests are likely to affect the curriculum development process. This helps to identify appropriate forms of stakeholder participation. The stakeholder analysis aims also to estimate the degree of importance and influence of each stakeholder within the PCD process. The level of importance indicates the priority given to satisfying stakeholders' needs and interests through curriculum development and subsequent training in order for it to be successful. The degree of influence is the power which stakeholders have over the curriculum development process. It is the extent to which people, groups or organizations are able to persuade or force others into making decisions and taking action. Finally, a

stakeholder participation matrix can be developed (Figure 2) where different stakeholders are ascribed potential roles and responsibilities within the curriculum development process. Once this participation matrix has been prepared it is possible to begin planning the different stages of the PCD process.

<b>Type of participation</b>	INFORM	CONSULT	PARTNERSHIP	CONTROL
<b>Stage in cycle</b>				
TNA				
AIMS				
PLANNING				
IMPLEMENTATION				
EVALUATION				

Figure 2. A stakeholder participation matrix.

This process has been followed with the university forestry faculties in Vietnam with two purposes in mind. Firstly the exercise is a valuable form of training within the overall participatory curriculum development process, and secondly there is a direct link between the stakeholder analysis and the subsequent involvement of different stakeholders in curriculum development activities. Establishing this link is important. Many of the graduates of the forestry faculties in Vietnam will become extensionists at Provincial and District level, and many serving extensionists receive in-service training to upgrade their knowledge and skills in forestry-related topics. Teachers have, until now, had little direct contact with extension workers and farmers through training, extension or research, however. This is partly because the extension service in Vietnam is still relatively new, but also reflects the fact that university teachers have only had a mandate to teach, and not to carry out research or extension-related activities.

With the development of new extension systems and structures, and several important policy decisions made by the government on forest land allocation and tenure, an appreciation is now growing at the universities that any new curricula should be based upon a range of knowledge, skills and attitudes which have been identified through research and needs analyses conducted jointly with farmers and field staff. Growing numbers of forestry teachers at university level are now prepared to utilize opportunities for extension and research activities to provide knowledge and experiences which then feed into the curriculum development process. Even so, it is often challenging to create an enabling environment for involvement of different stakeholders, and various training events have been organized by SFSP to help set the stage for this.

During a PCD training workshop, for example, a stakeholder analysis was conducted with forestry teachers as a preliminary step to establishing a PCD process. This experience



was very illuminating, as participants were asked to identify all the stakeholders in the curriculum development process and then to ascribe relative levels of importance and influence to them. The tendency was for participants to identify policy makers before other stakeholders. The farmers were consistently omitted from the list of stakeholders with an interest in short course development for field level forestry extension workers. It was interesting to note that farmers, the ultimate beneficiaries of the training, seemed irrelevant to the process of curriculum development from the perspective of college staff. When the omission of the farmers was queried, this key stakeholder group was rapidly added to the list and accorded a high level of importance. The workshop participants acknowledged that the farmers had been 'forgotten' during their discussions, perhaps reflecting the relatively low priority which farmers received in the past from some university-based teachers and trainers.

### **Stakeholder involvement in the identification of training needs**

During 1998, a large component of the PCD training with university and forestry extension staff centred around the identification and analysis of training needs for forestry education programmes, paying particular attention to social forestry. An earlier training needs assessment (TNA) in 1996, planned and implemented by the SFSP programme, had involved university teachers in data collection, consolidation, analysis and presentation. This yielded a great deal of information, but did not contribute much to the building of capacity of university teachers to develop their own strategies for TNA. The exercise in 1998, therefore, required university teachers to undergo training in the basic processes of developing a TNA (including the role of TNA in the overall PCD process, planning a TNA survey, methods used in the TNA survey, consolidation of results), and then to carry out these activities themselves with support from SFSP advisers. Similar exercises were also carried out with Provincial and District forestry extension staff as a means of developing a training strategy for forestry extension in the Province, and with teachers of an intermediate high school for agriculture and forestry. The general process is illustrated in Figure 3.

## Training Needs Assessment Planning Process

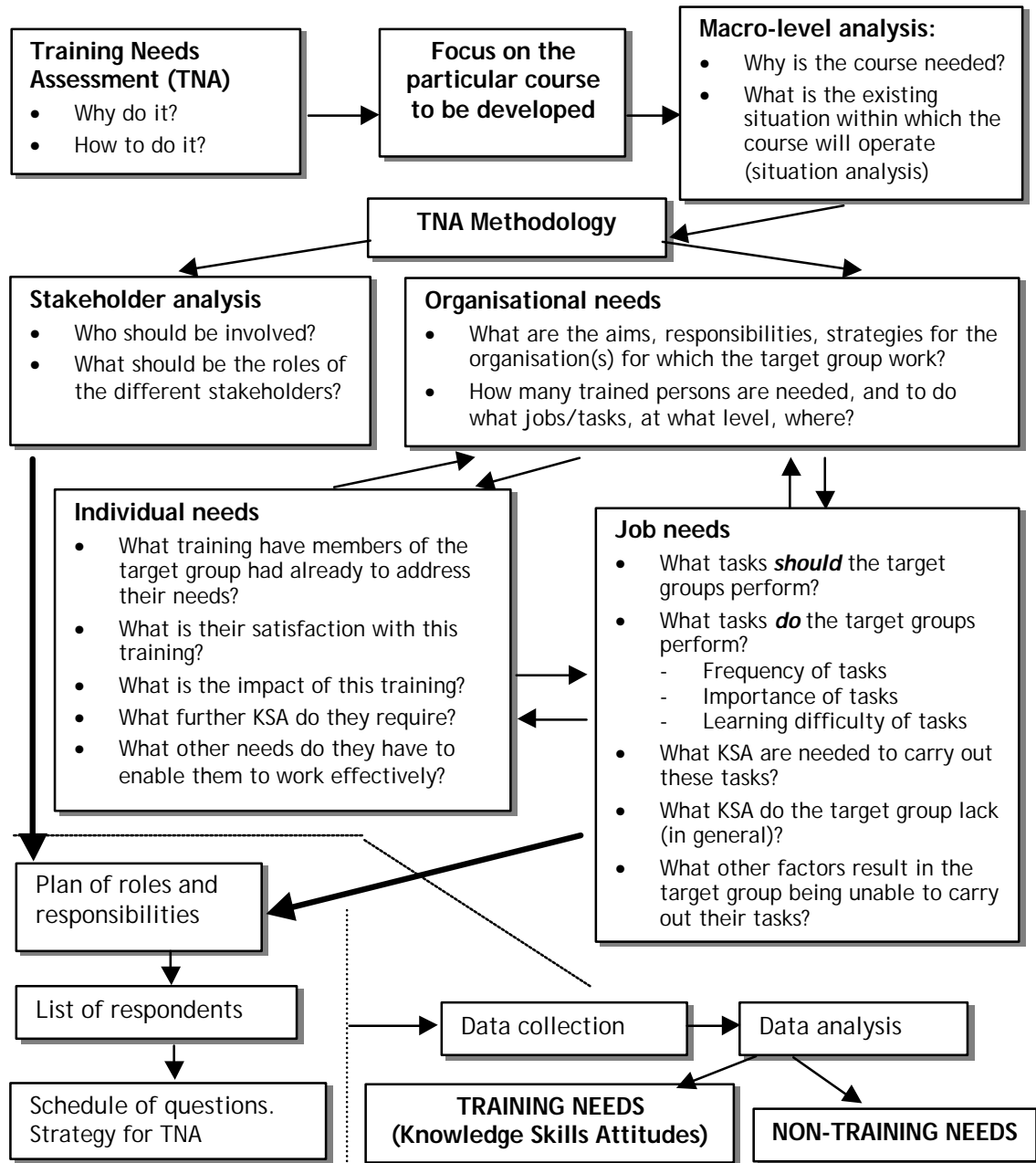


Figure 3. Training needs assessment planning process.

During the information gathering process, a wide range of stakeholders were identified and then involved. Teachers and extensionists had the responsibility to conduct the survey, but many other groups contributed information through interviews, group discussions and the use of participatory research methods. These groups included government officials (extensionists, forest protection staff, staff of forest enterprises, teachers in other departments and in other institutions), students, farmers, community workers and staff of projects implemented by NGOs and GOs. It was very important that the survey should not focus too strongly on specific jobs, a common strategy of most TNA surveys. As the extension system is quite new in Vietnam, there are few recognizable structures at the moment, and jobs generally do not have written job descriptions. Also it is still unclear about the 'nature' of someone who might be termed a 'social forester'. Even the function of a 'forester' is now being questioned. The most appropriate type of support needed by farmers is also in some doubt, although farmers are able to express their views on what they feel they need quite clearly. One university team which was rather reluctant, initially, to involve farmers in the TNA exercise were ready to admit after the experience that the information provided by the farmers gave them a better picture of the needs for extension worker training than the opinions of the extensionists themselves!

The main strategy employed in the TNA was to identify the main tasks carried out (both in an ideal situation and in practice, now and in the future) by forestry extensionists and other foresters, and to examine these tasks in such a way that a list of actual and desirable knowledge, skills and attitudes would emerge.

Contextual information was also collected during these exercises as it was realized that an assessment purely of training needs was insufficient to provide justification for the development of new training programmes. This was supplemented further by secondary data (from previous research studies and consultancies carried out by staff, for example from topical Participatory Rural Appraisals (PRA), and from reports of other studies and surveys, including the results of curriculum evaluation). Ultimately, the data collected was sorted and categorized. Finally, the knowledge, skills and attitudes identified during the TNA were presented at a feedback session to those who were involved in the TNA exercise, for their comments, validation and suggestions for prioritization of curriculum development activities. The outcomes of this process will now form the basis of the curricula which have been prioritised for development.

### **Stakeholder involvement in curriculum planning**

Within the forestry faculties in Vietnam, there is already a considerable degree of participation in curriculum development. For new subjects, teachers develop draft curricula, then share these with a wider group of colleagues. Following comments and amendments, the curricula are presented to a higher level of authority within the faculty. Again following comments, amendments and approval, the curriculum framework is presented to the university authorities for approval before going to

decision makers in the Ministry of Education and Training for final approval. Although this system may appear rather heavy and cumbersome, it does allow for considerable exchange about the aims, objectives and content of any new curriculum within the university itself.

What has been lacking until recently, however, is a mechanism by which different 'outsider' stakeholders can become involved in curriculum development other than by being simply consulted in a training needs analysis, such as described above. SFSP is therefore supporting a series of 'PCD awareness-raising' workshops. The purpose of those is to invite key 'insider stakeholders' such as staff and students from various university faculties, departments and centres, and also a range of key 'outsider stakeholders'. This latter group is often quite diverse, and depends on the context in which a particular university faculty is located. So far, representative stakeholders have come from Provincial and District level government departments (forestry, agriculture, veterinary), research institutions, schools and mid-level training institutions, community organizations such as the women's union, and from various rural development projects. One of these workshops used the current forestry curriculum as a starting point for discussion through a simple SWOT analysis, moving on to a debate on the tasks which forestry graduates are likely to carry out, and comparing perceptions of the knowledge, skills and attitudes needed, with those which are dealt with by the current curriculum. Participants looked at the curriculum as an integral whole, thinking about issues such as the balance of technical versus social/economic subjects, and how to ensure that learners gain relevant, high quality and timely field experience. There was a strong curriculum recommendation from this workshop that the social component of the forestry should be developed and increased, due to a perception amongst participants that forestry extensionists lack a range of social knowledge, skills and attitudes, for example in communication, extension, facilitation and participatory approaches in general.

Following such discussions, different strategies have been developed which should maintain the involvement of external stakeholders. One example is to invite outsider and insider stakeholders to occasional review meetings at which curriculum development progress reports are presented, and also to training events during which draft curricula are prepared. Stakeholders representing groups who will be targeted for training are then in a position to give direct inputs into the curriculum planning process, with advice on effective timing and location of training, potential participants, and also regarding the aims, objectives and content of training programmes, where this is feasible.

### **Stakeholder involvement in curriculum implementation**

Another strand of activities within SFSP is support to the development of participatory strategies for teaching and learning, ensuring that the PCD process extends also into the curriculum implementation phase. One major need identified is for teachers and trainers to use more learner-centred teaching methods. Teachers are receiving training and support in the use of learner-centred teaching methodologies such as group work,

visualization, making presentations and role plays. Some teachers have said that they find it difficult to introduce these alternative methods due to large class sizes, poor facilities and unwillingness by students to cooperate in a style of teaching and learning which might reduce the amount of content dealt with in a lesson. In many cases, however, confidence of the teacher is the most critical factor, and there is a clear need for concentrated, classroom-based follow-up support to teachers as they begin to develop and utilize learner-centred teaching methods.

A second important need for university forestry teachers is the capacity to develop, and utilize effectively, appropriate teaching and learning materials. A participatory approach is being adopted within SFSP for the development of a range of teaching and learning materials, which have, until recently, mainly taken the form of rather rigid 'textbooks', often outdated since their revision has been time-consuming, subject to a complex bureaucratic process, and costly. Examples of future innovative learning materials may include teaching notes, case studies, project outlines, guidebooks and manuals, all of which will need to be used in combination with alternative strategies for teaching and learning. The intention is to encourage collaboration by teachers from different universities and external persons who have relevant academic and practical experience in specific subject areas in the production of these materials. In certain cases, support is also being given by SFSP to improve teaching facilities which will enable teachers to introduce new methods and materials more easily and effectively.

### **Stakeholder involvement in curriculum evaluation**

In the past, curriculum evaluation at the universities has meant little more than reviewing a textbook and suggesting amendments. SFSP has provided training in a systematic approach to curriculum evaluation, using the 'CIPP' (context, input, process and product) approach. Once again, a range of stakeholders such as teachers from different universities, past and present students, and field staff should continue their involvement. Results of the first evaluations carried out have already been used to feed back into the curriculum development process, and it is hoped that this will contribute to the creation of a dynamic and open-ended system of educational improvement.

Additionally, a participatory monitoring and evaluation system is being set up for the SFSP as a whole; it is important that an education support programme such as SFSP monitors qualitative changes and improvements, as well as quantitative results, throughout the development process. All partners in the programme will have a responsibility within this process, and hopefully this will strengthen the sense of ownership in the programme which was encouraged initially by the joint planning platform used for the development of SFSP.

## Conclusions

As curriculum development progresses in the SFSP partner institutions, there are signs that a broader range of stakeholders, including farmers, will become involved to a greater extent than before. Needless to say, the process of achieving this involves a great deal of learning by all parties, and a number of difficulties have been encountered. Examples of the challenges to be overcome include reluctance by some teachers to involve 'outsiders' in curriculum development, a lack of understanding by some farmers of the PCD process and their role in PCD activities, logistical and bureaucratic obstacles, and difficulties in maintaining interest and involvement of some stakeholders beyond their initial contact with university teachers. Also, the sheer scale of the programme and the number of wide-ranging activities taking place has made consistent support from the programme difficult to maintain. Everyone engaged in SFSP is, to some extent, 'learning by doing'.

Although the SFSP and its partners will have to find ways of responding to these challenges, some very positive outcomes have already been observed from activities such as the initial stakeholder analyses, training needs assessments and curriculum evaluations. First drafts of new and revised curriculum frameworks for social forestry subjects are beginning to show that what has been learned by teachers from their field research and experiences, and from the direct inputs of farmers, can be represented in the curriculum in the form of aims, objectives, content and methods. Other outcomes are also promising, such as the establishment of a national network of forestry-related training institutions, each of which has its own local network. This national network provides opportunities for collaboration, both between network members, and with other national or regional networks such as SEANAFE. At a local level, it will be increasingly important for farmers to play a role also in the development of education and training programmes from which they will gain a direct advantage, either through receiving training themselves, or through benefiting from the training of those field-level extension staff who will work with them closely in the future. This may enhance the capacity of farmers to take up new challenges associated with land ownership and the development of a free market economy. Boundaries will of course continue to exist between universities and the 'outside world', but a PCD approach may help to identify the precise nature of these boundaries and enable different stakeholders to build bridges between different types of institution. Closer individual partnerships between teachers, learners and outsider stakeholders may also be established, hopefully for the benefit of all.

Although SFSP is at a very early stage in its development, the signs are already promising. Although the main target of the programme is university level education, interventions which involve stakeholders ranging from policy makers to farmers at the 'grassroots' through the use of a PCD approach, should contribute greatly to the development of more effective curricula and teaching and learning in forestry education. The journey which starts from the grassroots and leads to the trees will undoubtedly be long, but much of value is likely to be learned along the way.

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# Prospects for agroforestry employment in Asia

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## Introduction

Rapidly increasing populations in most Asian countries, including rural populations exceeding 70 percent in most developing countries of the region, are placing unprecedented strains on the natural resource base. People are increasingly looking to the region's relatively fragile uplands for the production of food, fuelwood, fodder, and timber. At the same time, there are expanding pressures to ensure reliable supplies of clean water from upland watersheds, maintain biological diversity, and protect against excessive soil losses. Meeting these increasing demands and expectations increasingly require the application of diverse and complex agroforestry approaches to ensure sustainability of production in the uplands.

While local farmers are invariably the real experts when it comes to developing and applying agroforestry systems, there is increasingly recognition of the need for qualified agroforesters to support and facilitate effective agroforestry development. Many educational institutions in Asia are responding to this need by expanding agroforestry training and education.

## Plenty of agroforestry work, but few jobs for agroforesters

Unfortunately, while there is a massive amount of agroforestry work to be done, currently there are few jobs for 'agroforesters,' at least in the narrow sense of the term. This dilemma was highlighted by statements made during the Regional Workshop on Agroforestry Education in Southeast Asia, convened in March 1998 by ICRAF and Sida:

- *'Agroforester' is a new job, not widely known to the public* (Indonesia)
- *'Career paths in government agencies are still a constraint'* (Philippines)
- *'More job opportunities for agroforestry graduates are desired'* (Vietnam)
- *'Graduates may not find jobs in the field of agroforestry'* (Thailand)
- *'No formal agroforestry program exists within the Forestry Department'* (Laos)

It is still rare to see a job vacancy announcement explicitly recruiting an 'agroforester' and no country in the region has an 'Agroforestry Department' in the same way as 'Forest Departments' or 'Agriculture Departments.'



With few jobs available in ‘agroforestry’ *per se*, at least in the near-term, agroforesters seeking employment will need to proceed along the traditional career paths in forestry, agriculture, rural development, communications, extension, etc. Such agroforesters, ‘dressed in the clothing’ of other professions, will increasingly find their knowledge and skills to be relevant and valued by employers as the need for agroforestry expertise continues to grow. An alternative approach for agroforesters seeking employment may be to pursue opportunities with non-traditional employers.

## Who hires agroforesters?

Current employers of agroforesters (including those with the title ‘agroforester’ as well as those holding titles other than ‘agroforester’ but performing agroforestry duties) include the following:

- international organizations (e.g., ICRAF, FAO)
- development organizations (including bilateral and multilateral donor agencies)
- government agencies (national and local)
- NGOs (international, national, and local)
- private sector (including agribusinesses, forest concessionaires, and forest industries implementing out-grower schemes for securing raw materials)
- consulting firms
- others (including research institutions and university faculties)

Additionally, increasing numbers of agroforesters are choosing to pursue self-employment, by developing agroforests as individual or family enterprises.

## Future trends in agroforestry employment

The multitude of diverse employers of ‘agroforesters’ (particularly when including those hired under other titles, but performing agroforestry duties and functions) and the rapidly evolving employment environment, make it extremely difficult to predict the future trends of employment opportunities for agroforesters. However, some generalizations can be ventured.

In the long term, the overall outlook for agroforestry employment in Asia is positive. It is anticipated that as the need for agroforestry expertise increases and the public (as well as employers) comes to recognize and appreciate agroforestry as a profession, employment opportunities will steadily increase. The increase is unlikely to occur uniformly across all employers, however.

While employment of agroforesters by government agencies may increase in a few countries, the overall trend is likely to be a reduction in government employment. Ironically, this will occur at the same time that agroforestry needs are increasingly

recognized by various government agencies. This recognition will be overwhelmed, however, by the general trends in the region (and the world) to reduce the size of governments, and decentralize and devolve government functions.

No significant changes (increases or decreases) in agroforestry employment patterns of international organizations, development organizations, or international NGOs are anticipated. While some of these organizations may expand agroforestry activities, it is most likely that any resulting employment increases will be channeled through sub-contracts with consulting firms, local NGOs, and other entities.

The most likely growth opportunities for agroforestry employment lie with national and local NGOs, private sector companies, consulting firms, and other non-traditional employers. These employers tend to be more flexible, adaptable, and responsive than other categories of employers, allowing them to increase hiring of agroforesters relatively quickly as opportunities and needs arise. These groups will likely fill many of the gaps created by any future government down-sizing.

In some countries, emerging regulatory requirements will necessitate an increase in hiring of agroforesters by the private companies, NGOs, and consulting firms. For example, Indonesian forest concession regulations increasingly require concessionaires to invest in and support local community development (including agroforestry) as a condition for retaining timber harvest rights.

Land and forest allocation programs in several countries of the region require user groups and other recipients to prepare acceptable land-use and/or resource management plans as a precondition for the transfer of use rights. The technical complexity of these planning obligations will often require the assistance and expertise of professional agroforesters.

Self-employment opportunities in agroforestry are also likely to increase significantly as many countries expand land allocation programs, grant additional rights of use over agriculture and forest lands to individuals, and liberalize the production and trade of agroforestry inputs and outputs.

## **Producing employable agroforesters (the role of educators)**

Agroforestry educators face considerable challenges in preparing graduates to compete effectively for jobs in a field that is rarely recognized as a profession in its own right. It is important for educators to recognize that the hardest job for most graduates to secure is their first job. Therefore, special attention needs to be given to ensure that graduates are ready to compete strongly upon graduation.

For government employment, it is particularly important for educators to ensure that graduates meet the minimum employment requirements and standards for recognized professions (e.g., agriculture, forestry, rural development, etc.).

In preparing graduates for the competitive modern job market, educators should emphasize universally valued skills such as communications, participatory methodologies, computer applications, and the ability to think, react, adapt, and innovate.

Graduates should also be encouraged to explore non-traditional career paths and opportunities, by looking beyond 'agroforestry' employment in the narrow sense. Finally, educators should ensure that graduates have a 'fall-back' position in the event that they are unsuccessful in securing their most preferred employment alternatives. This suggests encouraging students to attain minimum employment credentials in a related field for which there are greater employment opportunities.

## **Enhancing agroforestry hiring prospects**

To enhance employment opportunities for agroforestry graduates it is critical to develop close linkages between university programs and potential employers, to clearly understand the needs and requirements of potential employers, and ensure that graduates are equipped with relevant skills and expertise. Agroforestry educators, perhaps working through the Southeast Asian Network for Agroforestry Education (SEANAFE), could play key roles in fostering closer ties with potential employers and ensuring that graduates develop appropriate skills and experience.

Employers and potential employers of agroforesters might be surveyed to ascertain hiring trends, needs, and the characteristics and skills of graduates most valued and required.

Workshops could be convened at national or regional levels to bring educators, students, and various employers of agroforesters together to discuss needs and expectations related to hiring of agroforesters.

Internship programs might be established to facilitate agroforestry students in gaining practical experience with organizations involved in agroforestry development.

A 'Job Seekers Guide to Agroforestry Employment in Asia' might be developed to assist agroforesters in searching for jobs. The guide might include contact information, activities and programs, staffing structure, anticipated hiring requirements, and other relevant information on various employers of agroforesters in the region.

In the long-term, agroforestry educators need to assist in building awareness of the need for agroforesters and their potential contributions to rural development. By enhancing public awareness and recognition of the potential contributions of agroforesters, progress will be made toward developing agroforestry as a recognized profession.

## Conclusion

The need for agroforestry skills and expertise in Asia is clearly going to increase in the coming years as populations expand and demands on uplands increase. In the near-term, however, the employment prospects for agroforesters are uncertain and career paths are not well defined, particularly in government agencies. Outside government, employment opportunities are more numerous, but often lie hidden with less-recognized non-traditional employers.

Future employment of agroforesters by government agencies is likely to decline as many governments down size. Most of the future growth in agroforestry employment is likely to occur in national and local NGOs, private companies, and consulting firms. Self-employment in agroforestry is also likely to expand considerably.

Agroforesters seeking employment must ensure that they possess highly valued skills and must be creative and innovative in their search for employment. Agroforestry educators have key roles to play in ensuring graduates are appropriately prepared for the uncertain job market, enhancing the linkages between potential employers and graduates, and promoting agroforestry as a recognized profession.

## Annex 1. Programme

*1<sup>st</sup> General Meeting of the Southeast Asian Network for Agroforestry Education (SEANAFE),  
26-28 April 1999*

*Venue: IRRI, Harrar Hall, Los Baños, the Philippines*

### Programme

#### Sunday 25 April

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Arrival of participants in Los Baños

#### Monday 26 April

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8.00

Registration

8.30–10.00

#### **Opening Ceremonies**

Invocation

*Dr Wilfredo M Carandang, Coordinator, Research and Technology  
Development, Institute of Agroforestry, UPLB-CFNR*

Philippine National Anthem

Welcome remarks

*Dr Ronald P Cantrell, Director General, International Rice Research  
institute*

Opening remarks

*Dr Romulo A del Castillo, Director, Institute of Agroforestry, UPLB-CFNR*

Remarks

*Dr Lucrecio L Rebugio, Dean, College of Forestry and Natural Resources,  
UPLB*

*Mr Per G Rudebjer, Project Leader, ICRAF Southeast Asia Regional  
Research Programme*

Message

*His Excellency Bo Eriksson, Ambassador, Embassy of Sweden*

Keynote Address

*Dr Ruben L Villareal, UPLB Chancellor and chairman, Technical Panel for Agricultural Education, CHED*

Group picture taking

Coffee/tea

**10.30–12.10 First plenary—Challenges and opportunities in agroforestry education for the next millennium.**

Key note papers: 15 minutes presentation, 10 minutes open forum

10.30–10.55 Current issues in agriculture education in Southeast Asia

*Dr Francisco P Fellizar Jr. Deputy Director, SEARCA*

10.55–11.20 Rethinking forestry education: a case study from Vietnam

*Dr Peter Taylor, Technical Advisor: Education. Social Forestry Support Programme, Vietnam*

11.20–11.45 Emerging job markets for agroforestry graduates: a regional perspective

*Mr Patrick B Durst, Regional Forestry Officer, FAO*

Lunch

**13.30–17.00 The making of a network—the identity, profile and functions of SEANAFE**

13.30–14.00 Background:

- Earlier regional initiatives in agroforestry education  
*Dr Romulo A del Castillo, UPLB-IAF*
- Networking experiences from FAO/APAN  
*Mr Chun K Lai, ICRAF-Philippines*
- Summary of the 1998 needs assessment on agroforestry education  
*Mr Per G Rudebjer, ICRAF-Indonesia*

14.00–17.00 Workshop on the identity, profile and functions of SEANAFE

19.00 Welcome Dinner, IRRI Guest House

## **Tuesday 27 April**

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8.00–9.00 Second plenary: identity, profile and functions of SEANAFE

### **9.00–12.00 SEANAFE support mechanisms**

9.00–9.30 Presentation of SEANAFE support project, Mr *Per G. Rudebjer*, ICRAF

9.30–11.00 Workshop on SEANAFE support project: activity plan

11.00–12.00 Third plenary: feedback on SEANAFE support project

Lunch

### **13.00–17.00 SEANAFE protocol and management**

13.00–15.00 Workshop on SEANAFE protocol and management

15.00–16.00 Fourth plenary: SEANAFE protocol and management

17.00 Briefing for field trip

## **Wednesday 28 April**

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07.00 Field trip

19.00 Closing dinner

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