

Case Study Approach to Region-wide Curriculum and Teaching Materials Development in Agroforestry Education in Southeast Asia

Jesus C. Fernandez and Per G. Rudebjer

Southeast Asia



World Agroforestry Centre
TRANSFORMING LIVES AND LANDSCAPES

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Preface

Agroforestry, as an evolving discipline and practice, continues to take on new roles and a renewed importance in addressing socioeconomic and environmental concerns worldwide. Among these concerns include improving poor farmers' gainful participation in markets for agroforestry tree products and optimizing land uses in various landscapes to provide secure livelihoods and environmental services to communities. In Southeast Asia, however, tertiary education courses that address socio-economic and environmental impacts of land use decisions and the functions of entire landscapes are usually lacking in most academic programs. The focus is more on plot- rather than landscape-level management and the supply rather than demand side of production. If dealt with at all, the landscape and demand aspects of agroforestry are only briefly discussed, at best, as a topic. As such, learning institutions are challenged to make their agroforestry education programs and courses more responsive to these and other rapidly changing global needs.

Curriculum and teaching materials development are inherent processes that learning institutions undertake to remain relevant in their program offerings. These processes are critical to help produce graduates that are equipped with basic and specialized knowledge and skills to render professional service. As it is incumbent to the Southeast Asian Network for Agroforestry Education (SEANAFE) to help its member-institutions enhance their agroforestry education offerings, the network embarked on two projects to develop region-wide curricular framework and teaching materials on Markets for Agroforestry Tree Products and Agroforestry Landscape Analysis from 2005-2009.

This working paper shares SEANAFE's innovative processes in bringing in real field conditions in developing curricular framework and teaching materials on the two subject matters using the case study approach. It was SEANAFE's attempt to bring agroforestry education closer to the practice and vice versa. I congratulate SEANAFE and the authors involved for putting together the network's project experiences in this working paper. I hope that this working paper would stimulate discussion on the usefulness of the case study approach and spark the desire among learning institutions to be more innovative in developing curricular and teaching materials toward a more relevant agroforestry education in the region.

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Abstract

Since 2005, the Southeast Asian Network for Agroforestry Education (SEANAFE) has developed region-wide curriculum frameworks and teaching materials on two important subject matters identified by its member universities, namely: ‘marketing of agroforestry tree products (MAFTP)’ and ‘agroforestry landscape analysis (AFLA).’ This paper shares the processes adopted and lessons learned by SEANAFE from both projects, which used a case study approach to bring practical experience into use for teaching and learning. Both projects were aimed to enhance the content of agroforestry education programs and courses, including the teaching capacity of lecturers and the quality of graduates, among SEANAFE’s 87 member institutions in Indonesia, Laos PDR, the Philippines, Thailand, and Vietnam. For each of the two projects, multi-disciplinary teams of lecturers carried out the following activities within 18 months: (a) regional training to enhance the current state of knowledge on the two topics; (b) national case studies; (c) a workshop to formulate a curriculum framework and teaching material based on the results of the case studies; (d) translation of project outputs into local languages; (e) in-country training for 100 lecturers on using the curriculum framework and case studies material; and (e) supporting the mainstreaming of the project outputs into curricula. About 20 percent of SEANAFE member institutions have conducted curriculum reviews of existing agroforestry courses and/or programs to mainstream the outputs of the projects using the MAFTP and AFLA Teacher’s Guides.

SEANAFE’s project experiences have proven that building capacity to develop region-wide curriculum frameworks and teaching materials using the case study approach is feasible. The approach has also helped promote participatory curriculum development, maximize experiential and peer-based learning among teachers in the region, and enhance collaboration among SEANAFE member institutions.

Keywords

agroforestry education, capacity building, curriculum development, teaching materials development, Southeast Asia, agroforestry marketing, agroforestry landscape analysis

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Acronyms

AFLA	Agroforestry Landscape Analysis
AFTP	Agroforestry tree products
CIAT	International Centre for Tropical Agriculture
EFPE	Enhancing Forestry and Environmental Policy Education
GTZ	German Development Foundation
ICRAF	World Agroforestry Centre
MAFTP	Markets for Agroforestry Tree Products
RECOFTC	Regional Community Forestry Training Center
SEANAFE	Southeast Asian Network for Agroforestry Education
Sida	Swedish International Development Cooperation Agency
SNV	The Netherlands Development Organization

Introduction

Curriculum and teaching materials development have been among the major functions of the Southeast Asian Network for Agroforestry Education (SEANAFE) since its establishment in 1999. SEANAFE is a network of learning institutions, mostly universities and colleges, offering Bachelor and Master of Science degrees in agriculture and forestry in Indonesia, Laos PDR, Malaysia, the Philippines, Thailand, and Vietnam. Its membership has expanded from 87 in 2006 to 94 in 2009 with the establishment of the Malaysian country network. SEANAFE's mission is to '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 Southeast Asian region.'

The second phase of SEANAFE's operation (2005-2009) was conceived to enable educators from its member institutions to share knowledge and develop learning tools that address the interface between environmental conservation and poverty alleviation. It recognizes the fact that "the complex interface between these two areas must be handled in a holistic and integrated way if it is to help millions of small-scale farmers benefit from commercial markets and, at the same time, help them to manage local landscapes" [1]. Thus, the SEANAFE Phase 2 Project was guided by the overarching goal of educating Southeast Asia's next generation of educators, scientists, and decision makers, particularly those currently enrolled in forestry and agriculture universities, on the importance of these issues so that they can enact effective policies and programs. SEANAFE, through funding support from the Swedish International Development Cooperation Agency (Sida), organized its Phase 2 set of activities around the implementation of a series of regional projects identified by the SEANAFE Board. These themed projects included a) Markets for Agroforestry Tree Products (MAFTP); b) Agroforestry Landscape Analyses (AFLA); and c) Enhancing Forestry and Environmental Policy Education (EFPE). This paper will elaborate more on the MAFTP and AFLA Project experiences. The MAFTP and AFLA Projects will be referred in this paper as Marketing Project and Landscape Project, respectively.

Why the Marketing and Landscape Projects?

ICRAF's research activities in agroforestry marketing and landscape analysis and the need to integrate these concepts in university curricula provided the impetus for SEANAFE to conceptualize and implement the MAFTP and AFLA projects [2, 3].

Most countries in Southeast Asia have experienced structural shift from subsistence to a market economy due to the rapid socio-economic and environmental changes that have taken place in the region in the last decade. These changes included unprecedented national economic growth; greater investment in infrastructure, particularly roads and communication facilities; implementation of new international trade agreements; changing land uses; depletion of the region's natural resources; and population growth. Such changes, amongst others, have influenced traditional trading patterns and led to the emergence of new markets, including markets for agroforestry tree products (AFTP). AFTP include both wood and non-wood products, as well as environmental services, which makes agroforestry markets huge, diverse, and hard to characterize. The overlap between markets of forestry and agriculture and the lack of sufficient and reliable market information, such as published market prices, aggravate the situation for marketing AFTP.

Many of the region's farmers are unable to tap the full potential of their production capacity and have not achieved gainful participation in markets due to several factors including: limited working capital; lack of access to information on markets; low domestic demand; inability to produce quality products or provide a steady supply required by the markets; poor infrastructure; lack of knowledge and understanding of standards; and lack of skills and/or capital needed to generate additional income through post-harvest processing and value-adding. Other social and political constraints also complicate the scenario, such as taxes and formal and informal fees that increase risk and add to transaction costs. Thus, efforts to improve poor farmers' gainful participation in markets for AFTP must consider how the necessary conditions for market access can be created ranging from traditional products traded only locally, to commodities traded globally.

Similarly, the region's upland landscapes are being affected in response to the abovementioned changes. The ability of landscapes to provide secure livelihoods for their inhabitants and environmental services for society depends on their economic, social and biophysical 'connectivity'. Likewise, the way landscapes are used and managed contributes both to the maintenance of existing environmental services, and to the rebuilding of services that may have been lost through unsustainable practices. On the other hand, impacts of natural disasters on lives and landscapes can be reduced by good land management. For example, many agroforestry systems can protect the soils better than mono-cropping systems. Integrated solutions are required that can optimize land use across the different zones of the landscape. This highlights the importance of understanding the function of an entire landscape, or nested levels of landscapes.

However, courses that address environmental impacts of land use decisions and the functions of entire landscapes are usually lacking in most university programs. The focus is more on plot-level management, rather than the larger landscape, which ignores the off-site effects of land use decisions

on water quality, nutrient losses, agrochemical contamination, and biodiversity. Most university courses fail to consider that integration of different land use disciplines may provide an overall healthier landscape. Likewise, most agroforestry education programs and courses in Southeast Asia place a low emphasis on the demand aspects of agroforestry, especially the links between producers and consumers, markets, post-harvest processing and small-scale livelihood systems. In most cases, agroforestry education in the region is still biased towards production or the supply side of production. If dealt with at all, demand aspects are only briefly discussed, at best, as a topic.

The issues mentioned here strengthened the rationale for selecting MAFTP and AFLA as SEANAFE's project themes. By systematically studying these issues toward developing curriculum frameworks and teaching materials on these subject matters, SEANAFE believed that the competence (knowledge, skills, and attitudes) that students should acquire related to MAFTP and AFLA could be enhanced. Together, these projects could provide a better perspective to the students about small-scale farmers and their potential as a business, as well providing insights into how agroforestry markets impact on livelihoods and landscapes.

Overall Framework of the Marketing and Landscape Projects

Both SEANAFE’s Marketing and Landscape projects had two general objectives, namely: a) to improve agroforestry education in universities and colleges in Southeast Asia (SEA) by developing region-wide curriculum frameworks and teaching materials in English and national languages, and b) to enhance the teaching capacity of at least 100 lecturers from SEANAFE member institutions on the two subjects. These objectives were geared toward helping realize SEANAFE’s mission of improving the livelihood of the poor farming families in the region through quality agroforestry education. As shown in Figure 1, the projects envisioned three educational impacts. In the short term, the projects expected to enrich agroforestry teaching materials in SEANAFE institutions through the adoption of the country case studies. In the midterm, the projects hoped to stir more curriculum development and reviews among universities and colleges within and outside the SEA region to incorporate marketing and landscape themes in existing agroforestry curricula. In the long term, SEANAFE looks forward to offering marketing and landscape curricula as separate courses within agriculture and/or forestry programs in its member institutions.

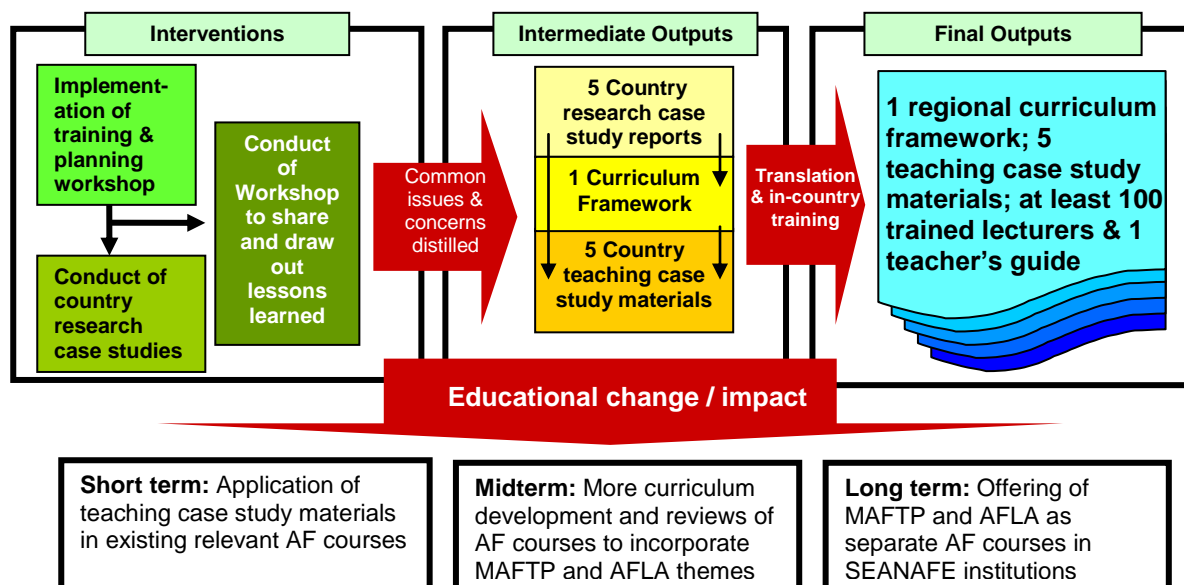


Figure 1. SEANAFE Project Framework.

SEANAFE formed country teams to help accomplish the project objectives within 18 months. Each team consisted of at least four members having complementary competencies from SEANAFE member institutions. Table 1 lists the specific objectives of the two projects.

Table 1. Specific objectives of the SEANAFE Marketing and Landscape Projects.

Marketing Project	Landscape Project
<ol style="list-style-type: none"> 1. Review and understand principles for small-holders' gainful participation in markets for agroforestry tree products; and 2. Identify and characterize key types of markets for agroforestry tree products in Southeast Asia. 	<ol style="list-style-type: none"> 1. Review and understand the principles of how mosaic agroforestry landscapes function; and 2. Identify and characterize key drivers behind landscape changes, and be able to use participatory tools and methods for studying landscape dynamics.

Each project was expected to produce the following outputs:

- A regional synthesis/review of current knowledge, skills, methods, and tools on the given subject matter;
- Five national research case studies;
- A regional curriculum framework and five teaching case studies in English and the national languages of SEANAFE member countries;
- Capacity building for at least 100 teachers in Southeast Asia; and
- Institutionalization of the project outputs in existing agroforestry and related courses in SEANAFE member institutions.

Adopting the Case Study and Team Approach

SEANAFE thought that developing a curriculum framework using the case study approach could be more problem-oriented and broad field-centered [4]. Being broad field-centered means that several separate concepts related to the subject matter are considered in an interdisciplinary framework. This puts the subject matter in a wider perspective and generates fresher insights and experiences that can then be used to formulate a curriculum. In the process, it provides the basis for activities in which learners can compare and contrast related areas, developing interdisciplinary understanding and appreciation of the subject matter based on real-world conditions. On the other hand, being problem-oriented means being interdisciplinary and participatory, highlighting real situations, and engaging learners to think more critically about the subject matter.

As defined by Yin [5], a case study is an “empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used.” Following this definition, SEANAFE relied on the strength of a case study with its ability to deal with a variety of evidences collected from various sources which could be triangulated to produce the desired project outputs. There was support from Stake’s [6] argument, too, that adopting the case study approach for the projects is “not so much of a methodological choice but a choice of what is to be studied.”

Case studies can be classified into two types, i.e., a research case study and a teaching case study. A research case study can be said to contain a full description of the case being studied, including analysis, conclusions, and recommendations. Its main purpose is for the reader to fully understand the case being studied and generate experiences and lessons. On the other hand, a teaching case study deliberately does not include much analysis, or many conclusions and recommendations with regard to the case being studied. Rather, the purpose is to challenge and stimulate the learner’s behavioral skills in analysis and critical thinking on what actions to take if they were in the same situation as the one described in the case [7]. Both types of case studies were produced for the Marketing and Landscape projects. In this paper, research case studies refer to the full versions of the case studies produced by the country teams. They served as inputs to generate the curriculum framework on MAFTP and AFLA and for subsequently developing the teaching case study materials. Thus, the teaching case studies refer to the repackaged versions of the research case studies.

Table 2. Topics of MAFTP and AFLA case studies of the country teams.

MAFTP	AFLA
<ol style="list-style-type: none"> 1. Market Chain Analysis of Cashew Nuts in Wonogiri District, Central Java Province, Indonesia 2. Bamboo Marketing in Laos PDR 3. Market Development for Coconut-Based Agroforestry Farms in Quezon Province, Philippines 4. Marketing of Para Rubber Products of Small-Scale Farmers in Northern Thailand 5. Cashew Nut Supply Chains in Dak Nong and Binh Phuoc Provinces, Vietnam 	<ol style="list-style-type: none"> 1. Agroforestry Landscape Analysis In Mendalam River Basin, The Upper Stream Of Kapuas Watershed, West Kalimantan Province, Indonesia 2. Landscape Changes in Nam Thone Watershed, Pakading District, Bolikhamxay Province, Lao PDR 3. Landscape Agroforestry Dynamics in Two Sub-Watersheds Within the Makiling Forest Reserve In Los Baños, Laguna, Philippines 4. Landscape Agroforestry Mapping and Planning for Sufficiency Economy in Huairaeng-Khlong Peed Watershed in Eastern Thailand 5. Study on Upland Maize-Based Landscape Agroforestry in Son La Province, Northern Vietnam

As a capacity building activity of SEANAFE, the projects adopted the team and participatory approaches for the following reasons:

- To maximize experiential and peer-based learning among country team members, while undertaking the various project activities toward producing the expected project outputs;
- To involve key stakeholders during the country teams’s research and project workshops, which also would be beneficial for subsequent participatory curriculum development;
- To maximize consensus building among country teams to heighten ownership of the project outputs toward enhanced advocacy of MAFTP and AFLA concepts and tools; and
- To enhance interaction among SEANAFE member institutions.

Forming the Country Teams

The SEANAFE Board developed criteria for composing the project country teams which included: (1) gender representation, (2) expertise in key areas related to the subject matter, and (3) participation of different institutions and younger lecturers. On the qualifications of the team members, they should at least: (1) be engaged in teaching and/or research in SEANAFE member institutions; (2) have working knowledge of oral and written English language; and (3) be available throughout the project duration. SEANAFE national network chairs endorsed their respective team nominees, together with their curriculum vitae, to the SEANAFE Board for final selection.

Setting the Direction for and with the Country Teams

The first regional training-cum-planning workshops for both projects (Please see Attachments 1 and 2) set the directions for the country teams to carry out project activities. The workshops were geared toward achieving the following objectives:

1. Level off working knowledge and experiences and update the country team members on the concepts, principles and issues of MAFTP and AFLA;
2. Enable the country teams to collectively identify the competencies that students should acquire on MAFTP and AFLA and identify the educational gaps toward drafting a curriculum framework for the relevant subject matter;
3. Provide direction and guidance to the country teams in finalizing and then drafting concept proposals for the research topics for their respective country research; and
4. Formulate effective working arrangements and schedules for both SEANAFE and the country teams in conducting project activities.

SEANAFE implemented the training-cum-planning workshops in collaboration with several agencies that had the same interest and expertise in the two subjects. They included: the Regional Community Forestry Training Center (RECOFTC), Netherlands Development Organization (SNV), German Development Foundation (GTZ), World Agroforestry Centre (ICRAF), and the International Center for Tropical Agriculture (CIAT). These agencies provided either financial support or expertise during workshop sessions.

Behind all the planned activities of the training-cum-planning workshop was the underlying purpose of building teamwork among the members. Thus, during small group workshops and discussion sessions, all opportunities were maximized to enable members to learn about each other's personal- and team-working styles, particularly in decision-making.

Conducting the Research Case Studies

Each country team was requested to submit a case study proposal a month after the training-cum-planning workshop. SEANAFE and its project partner institutions extended technical assistance to all country teams to finalize their case study proposals. Letters of agreements were then signed between SEANAFE and the respective institutions of the country team leaders to carry out the case studies for six months.

The teams used various methods, ranging from secondary data sourcing to focused group interviews, to generate data for their case study research. Information was gathered from many types of respondents because the teams differed in the level of their study sites, i.e., either village, district, municipal or provincial levels. This situation surfaced more relevant issues and concerns about MAFTP and AFLA, which served as critical inputs in the development of the curriculum frameworks.

To keep the case study activities on track, SEANAFE sustained technical assistance to the teams, albeit through the email system. The teams were also required to submit progress reports which were referred to ICRAF experts for critiquing and advice. In addition, at least one coordinators' meeting for each project was conducted to discuss and address both the logistical and technical concerns of the teams

After data gathering, the country team members developed their research case study report electronically. Team meetings to discuss outputs personally were constrained by the available project funds.

Developing the Curriculum and Teaching Materials

After completion of the research case studies, SEANAFE conducted a second regional workshop for each project to (1) present and compare the research case study results and experiences of the teams, (2) finalize curriculum frameworks and (3) convert the research case study reports into teaching case study materials.

In developing the curriculum framework, SEANAFE adopted somewhat different approaches for the two projects. Having identified the competency requirements for students related to the curriculum framework of the two subjects during the first regional country team workshops, the projects conducted different sets of related activities during subsequent project phases (Fig 2).

The Marketing Project adopted an inductive way of developing its curriculum framework. The key themes that made up the curriculum framework were identified late in the process, derived from the common observations, issues, and concerns that surfaced from the analysis of the country research case study results.

The Landscape Project followed a deductive process, such that key themes of the curriculum framework were identified first. The themes were then used to guide the conduct of the country research case studies to generate observations, issues, and concerns as additional inputs to formulating a curriculum framework. This change in the approach was aimed at determining whether such a process would affect the quality of research outputs, the cross-country analysis, generalization of findings toward the development of the curriculum frameworks, and teaching case studies material.

Tables 3 and 4 list the curricular themes and their corresponding brief descriptions for each of the subject matters as formulated by the country teams.

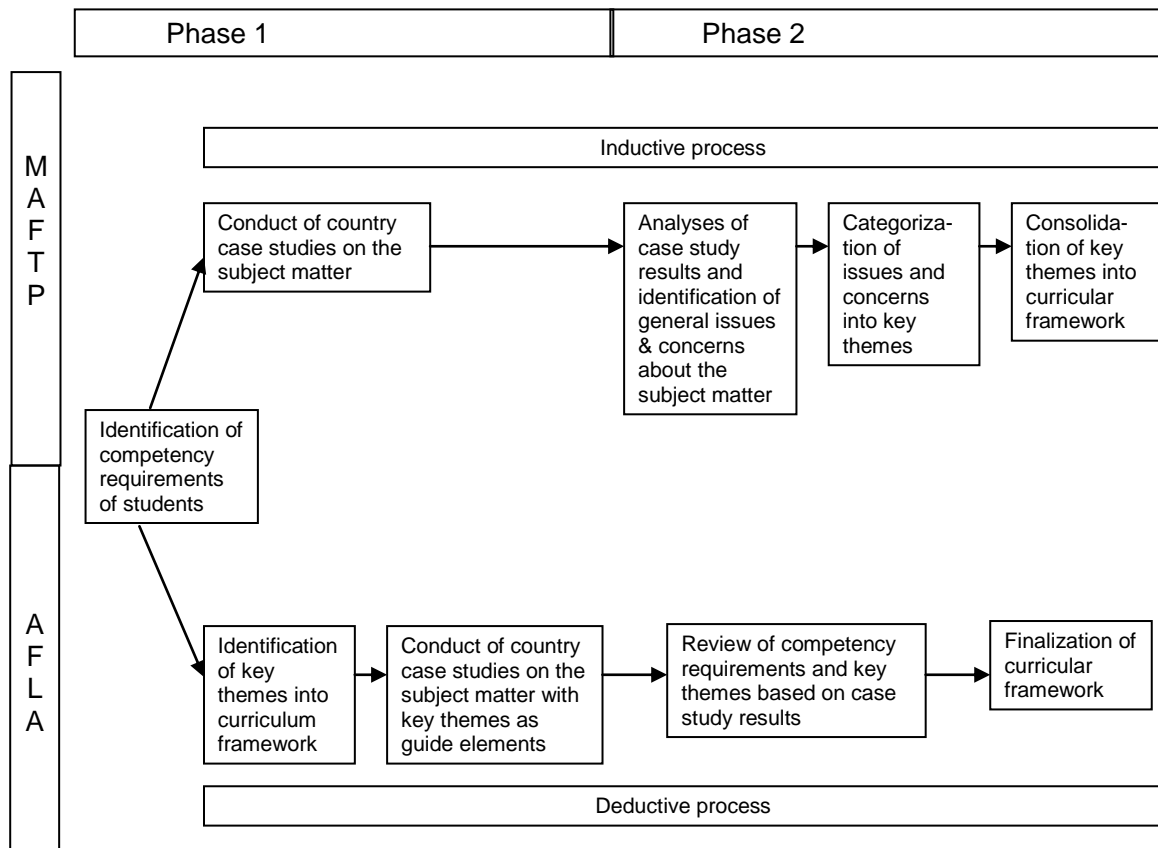


Figure 2 Marketing and Landscape Project processes in developing curriculum framework.

Table 3 MAFTP curricular themes and their brief descriptions.

Themes	Brief Descriptions
Theme 1: Agroforestry Situationer in Southeast Asia	Sets the tone of the course and provides an overview of the state of agroforestry in the region including its potentials and challenges in the light of emerging global concerns
Theme 2: Sustainable Agroforestry Production, Trade, and Consumption in Southeast Asia	Discusses agroforestry as a development sector including its markets and the roles and responsibilities of its various actors in ensuring its development and sustainability in the context of current and potential challenges, including gender issues; also provides an introduction to basic marketing concepts in relation to agroforestry development and also outlines some basic steps in marketing agroforestry products through market research, marketing plan preparation, implementation and evaluation.
Theme 3: Value Chain Analysis and Agroenterprise Development	Explains value chain concepts and processes as well as the various chain participants adding value to the product as it passes through the chains; emphasizes on the importance of agroenterprise development and promotion, constant production innovation and quality assurance towards sustaining agroforestry chains
Theme 4: Enabling Environment for Agroforestry Marketing	Provides an overview of the varying regional and country requisites that enable agroforestry development and product marketing; analysis of what works and did not work to enhance policy input, formulation, and implementation in support of sustainable agroforestry

Table 4. AFLA curricular themes and their brief descriptions.

Themes	Brief Descriptions
Theme 1: Introduction to Landscape Agroforestry	Deals with basic concepts and principles of landscape agroforestry and mosaics of forest, agriculture, and agroforestry; includes relationships with concepts developed in related fields of study such as farming systems, community forestry, agroforestry systems, agroecosystems, watershed management, landscape architecture, landscape ecology, etc.; emphasizes on the roles of historical change, spatial scale and system boundaries
Theme 2: Characterizing Agroforestry Landscapes	Touches on approaches for identifying, assessing, and understanding important properties, characteristics, patterns, and dynamics of agroforestry landscapes; introduces the three complementary approaches to ‘knowing’ and ‘understanding’ that are embedded in local knowledge, public/policy discourse, and science.
Theme 3: Drivers of Change in Agroforestry Landscapes	Focuses on identifying and understanding the forces and processes that drive change(s) in configuration and/or dynamics in agroforestry landscapes which could be based in biophysical, environmental, social, economic, cultural, institutional or political realities, at local to global levels over a given period of time.
Theme 4: Tools, Methods, and Approaches in Agroforestry Landscape Analysis	Provides an overview of available approaches, methods, and tools potentially useful in defining and characterizing agroforestry landscapes in an interdisciplinary way; includes approaches to identify and understand forces driving change in configuration or dynamics
Theme 5: Planning and Managing Agroforestry Landscapes	Centers on the potential roles of landscape assessment, planning, management, and monitoring in negotiations among stakeholders of rules and incentives that influence drivers of change

SEANAFE also applied a different approach in developing the teaching case study materials for each project. For the Marketing project, the country teams were requested to identify at least three key MAFTP themes that were prominently discussed in their research case studies. The teams were further requested to develop a teaching framework on these key themes containing: (1) issues and learning points found in their respective research case studies, (2) the information to be highlighted in the teaching case studies that eventually would be developed, (3) guide questions for discussing the issues and learning points, and (4) suggested methods to teach the three key themes chosen.

SEANAFE and the country teams agreed to hire an external editor-cum-case study writer to convert the country research case studies into teaching case studies using the teaching frameworks produced. The plan was to write short, easy-to-read teaching case study materials that could encourage greater learning by the students on the various MAFTP curricular themes. Thus, it was important that the external editor cum case study writer has considerable background on the individual actors in the chain studied, their issues and concerns, and the major lessons shared to give the teaching case study material a more realistic feel.

Learning from the experiences of the Marketing project, SEANAFE allotted more time during the Landcape project's second regional workshop to enable the team members to draft their respective teaching case study materials. To accomplish this, SEANAFE tapped the services of two case study writers from RECOFTC to guide the team members in distilling the key issues and messages of their research case studies and consolidating them into teaching case studies. Following the peer-based learning approach, the country teams were requested to critique and improve each other's outputs. One month after the workshop, the country teams submitted the improved versions of the teaching case study materials to the case study writers for final editing. After the revisions, SEANAFE finally packaged the teaching case studies for translation into the local languages of the country teams during AFLA's Phase 2 implementation.

Refining and Translating the Teaching Case Studies and Conducting In-country Trainings

Phase 2 of both projects consisted primarily of translation of the teaching case studies into the local languages of the participating countries and the conduct of in-country training on using the project outputs. The country teams received another set of contracts from SEANAFE for this phase.

To help achieve the Phase 2 activities, SEANAFE conducted a team coordinators' meeting for each project. Such meeting was aimed to: (1) revisit and finalize the scopes of the key themes of the curriculum frameworks; (2) finalize the teaching case studies material for translation into the local languages of the SEANAFE member countries; (3) finalize the country team proposals and terms of reference for project Phase 2 implementation; (4) agree on the major processes and basic activities that the country team would undertake for Phase 2 including the design of the in-country training; (5) familiarize the country teams with some practical tips on organizing and implementing an in-country training course; and (6) agree on the implementation of the timetable of activity for the Project.

Once again, SEANAFE adopted a peer-based approach during the coordinators' meeting in finalizing the teaching case studies. In reviewing the materials, the coordinators were asked to: (1) identify areas needing more clarification (i.e., were there still info gaps, data consistencies? What assumptions need to be formulated? Is it comprehensible to the students? What parts need to be simplified?); (2) assess if there is a match between and among the material content, key themes being discussed, and guide questions that need to be answered by the students; (3) determine if the material can provide answers to the guide questions for the students; and (4) assess if the suggested activities are relevant and implementable and provide suggestions, if otherwise. The final versions of the case study materials were translated in Indonesian, Lao, Thai, and Vietnamese languages and edited either by the country team members themselves or by an expert contracted by them. Translation was not needed in the case of the Philippines as English is the medium of instruction in universities and colleges.

Though country coordinators agreed on a common in-country training design, the country teams were nevertheless given flexibility to adopt various approaches in implementing their respective training activities. SEANAFE recognized that the country teams had different working knowledge in implementing a training course. In discussing the key themes of the curriculum framework, either the country teams served as the resource persons or they invited experts to lecture on the themes. In sampling the case study materials, on the other hand, the teams either adopted a plenary approach and/or small group discussions. For the Marketing project, 109 lecturers, researchers, and extension staff from 72 learning organizations, mostly SEANAFE members, benefitted from the in-country training. The Landscape Project, on the other hand, trained 105 lecturers and researchers from 71 SEANAFE member institutions. Table 5 contains a breakdown of the participants and institutions per country.

Table 5. Breakdown of Marketing and Landscape Project training participants per country.

Country	MAFTP		AFLA	
	No. of Participants	No. of Institutions	No. of Participants	No. of Institutions
Indonesia	21	16	17	17
Laos PDR	20	10	17	9
The Philippines	28	28	29	26
Thailand	21	10	24	10
Vietnam	19	8	18	9
Total	109	72	105	71

Mainstreaming Project Outputs and Insights

SEANAFE's post Marketing and Landscape project activities focused supporting the mainstreaming of the project outputs and experiences in member universities and colleges. Thus, SEANAFE allocated small grants to its member institutions to undertake curriculum reviews and similar activities (e.g., stakeholders' dialogue/consultation meetings, seminars). Specifically, the small grants were aimed at accomplishing either of the following project mainstreaming objectives/educational impacts: (1) institutionalizing the use of the SEANAFE MAFTP and AFLA research and teaching case study materials in any existing courses where relevant; (2) incorporating the key themes of MAFTP/AFLA curricular frameworks in existing agroforestry and related courses; and (3) offering an entire MAFTP/AFLA course within an existing BS Agriculture/Forestry/ Agroforestry and related programs with the case studies as major teaching materials. This component was also SEANAFE's way of validating the relevance of the project outputs and experiences. It was also building institutional capacities of SEANAFE member institutions as most mainstreaming activities involved orientations of faculty members and administrators on the subject matter.

For the Marketing Project, 17 out of the 72 institutions that participated in the in-country training took advantage of the SEANAFE mainstreaming grant i.e., 6 from Thailand, 5 from the Philippines, 3 from Indonesia, 2 from Laos PDR, and 1 from Vietnam. In most cases, the grantees focused on incorporating themes of MAFTP into existing agroforestry and related courses offered in their respective institutions via 3-to-8 contact hours of coverage within a semester. Value Chain Analysis and Agroenterprise Development appeared to be the most common themes integrated into existing agroforestry and related courses by a majority of the institutions. One institution in the Philippines proposed offering the MAFTP curriculum as an elective course under its B.Sc. Agroforestry program. Though the MAFTP Teacher's Guide contains the proposed teaching design and suggested reference materials for teaching the various themes, the challenge is for the teachers to look for related teaching material in a local language for ease of understanding by the students. It is for this reason that one institution in Indonesia decided to develop a full set of lecture notes on the MAFTP key themes in the Indonesian language. Copies of these lecture notes have been published already and distributed to SEANAFE member institutions in Indonesia for teaching purposes.

The Landscape Project outputs were mainstreamed by 7 SEANAFE institutions, i.e., 2 institutions each in Indonesia, Lao PDR and the Philippines, and 1 from Vietnam. The two institutions from Lao PDR focused on integrating Themes 2 (Characterizing Agroforestry Landscapes) and 3 (Drivers of Change in Agroforestry Landscapes) into their existing agroforestry courses. A course syllabus and a complete set of lecture materials on AFLA in Bahasa Indonesia and English were produced by the institutions in Indonesia and Philippines, respectively. These materials have been distributed to all SEANAFE member institutions in these countries. Interestingly, Vietnam conducted an in-country training on AFLA for 25 extension workers in Central Highlands of the country.

Conclusions, Lessons Learned and Recommendations

Building capacity to develop region-wide curriculum frameworks and teaching materials using the case study approach is feasible based on SEANAFE's Marketing and Landscape project experiences. In addition, the approach has (a) proven to promote participatory curriculum development through the involvement of key information sources during the conduct of the research; (b) stimulated experiential and peer-based learning among teachers in the region; and (c) enhanced collaboration and knowledge sharing among SEANAFE member institutions.

However, SEANAFE believes that refinements are necessary to make the process more effective and efficient considering the long duration and the relatively high cost requirement of the projects. Below are the general lessons learned and recommendations of SEANAFE to improve the process:

1. The kind of expertise and quality of commitment and working dynamics among the team members played a critical role in generating the expected project outputs. While the commitment and teamwork among members could not be ascertained at the onset of the selection process, it is essential that a more detailed selection criteria and team work mechanisms should be developed and carefully implemented. Team building activities could have been incorporated throughout the project duration, especially during the first country team training-cum-planning workshop. This would allow the teams to develop their own sets of work norms toward ensuring effective interpersonal communication and smooth working relationships.
2. Mobilizing team members coming from different universities in different locations was difficult due to differences in their work commitments in their respective institutions. As observed, the team coordinator took on most of the responsibilities. This may have been addressed better if the country network coordinators had played a more prominent role in orientating the respective supervisors of other team members. Since the contract for project implementation was between ICRAF and the institution where the project leader came from, a separate partnership statement should have been issued to other participating institutions. In the process, this would help their supervisors understand the demand for the members' involvement in the implementing the project. Further, copies of the timetable of project deliverables should have been distributed to the members' supervisors for monitoring purposes.
3. Since most, if not all, of the team members were lecturers/researchers, they were more familiar with technical research report writing than writing of teaching case studies. More lecture sessions and exercises on case study writing should have been an integral part of the first regional training-cum-planning workshop, while a review of the same writing principles should have been included in the second workshop design for both projects. This remedial

action was only made during the coordinators' meeting for the Marketing project and during the second regional workshop for the Landscape project.

4. More technical input was given to the country teams on better appreciating and understanding the MAFTP and AFLA concepts and principles than on the process of producing the target outputs (e.g. the curriculum framework and case study materials) during the project training and workshops. This may have been due to the fact that SEANAFE capitalized on the experiential and peer-based learning approach in developing the curriculum and teaching materials and with the assumption that the team members were already familiar with the process. On the contrary, equal attention must be given in clarifying concepts and principles of the subject matters and the development of the expected outputs.
5. SEANAFE had provided adequate guidelines, tips and reminders on carrying out project activities through email and phone calls. However, a much more cohesive and comprehensive set of outputs and outcomes could have been produced by the country teams, especially in the conduct of their research and in-country training, if there had been more personal mentoring and closer monitoring from the SEANAFE technical adviser and/or the experts who were provided from partner institutions. Though this may require additional cost, practical arrangements could be developed.
6. Curriculum frameworks can be done through inductive or deductive process based on the experiences of the 2 projects. However, the latter appears to be a more practical option for guiding the country teams in conducting their respective research case study projects and for more effective cross-country identification and validation of common issues on the subject matter resulting from the research results.
7. Proper selection of participants in the in-country training courses on the use of the curriculum frameworks and teaching materials is important. This is to achieve the objective of mainstreaming the subject matter in existing agroforestry courses in SEANAFE member institutions and gain greater project impact. Participants should be faculty members and occupy mid-level administrative positions in their respective organizations. This is to ensure a better decision making influence in incorporating the subject matter into agroforestry education during any curriculum development and review processes. There is also a need for proactive follow-up on the implementation of the individual action plans formulated by training participants to avail themselves of the SEANAFE small grants for project output mainstreaming.
8. The presence of a curriculum framework and Teacher's Guide makes the integration of multi-disciplinary subject matter into existing agroforestry and related courses much easier. Such material can provide good ideas to universities on how and where improvements can be made to existing course curricula.

Some Challenges in Institutionalizing SEANAFE Project Experiences and Outputs

SEANAFE sees the following major challenges to the future institutionalization of its project experiences and outputs to facilitate the building of capacity for region-wide curriculum and teaching materials development in agroforestry education in the SEA region:

- Institutional support and full recognition of the project approaches by SEANAFE member institutions to ensure the adoption of project outputs, considering the variation in the way course curricula are developed in the different member countries
- Differences among SEANAFE member institutions in the content and mode of offering of agroforestry courses and programs
- The relatively high cost requirement to generate the expected outputs and outcomes
- Familiarity and readiness of lecturers from SEANAFE member institutions to adopt the case study approach in their teaching
- Availability of other case study and reference material in SEANAFE countries that would enable lecturers to teach the curriculum framework themes adequately

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Attachment 1

Regional Training and Planning Workshop on Markets for Agroforestry Tree Products 21-26 November 2005, RECOFTC, Bangkok, Thailand

Monday, 21 November

Time	Activity	In-Charge
08:30-09:00	Registration	SEANAPE Secretariat
09:00-10:00	Opening Session <ul style="list-style-type: none"> • Welcome Address • Keynote Speech • Overview on Training-Workshop Objectives and Program 	Dr. Monton Jamroenprucksas, <i>SEANAPE Board Chair</i> Dr. Yam Malla, <i>RECOFTC Director General</i> Prof. Dr. Songkram Thammincha, <i>former KU President</i> Mr. Per Rudebjer, <i>SEANAPE Technical Adviser</i>
10:00-10:30	Coffee Break	
Theme 1: Framing the Issues		
10:30-12:00	Introduction of Participants Marketing basics as applied to agroforestry tree products: <ul style="list-style-type: none"> • Banana markets in West Java • Market Information Systems 	Per Rudebjer Joel Tukan, <i>ICRAF-Bogor</i> Joost Foppes, <i>SNV Laos</i>
12:00-13:00	Lunch	
13:00-15:00	Exercise: Knowledge mapping of participants' profile and experiences regarding markets for agroforestry tree products	Joost Foppes
15:00-15:15	Coffee break	
15:15-16:00	Standards and Certification	Matthew Markopoulos
16:00-16:30	Introduction to Field Day	Somjai Srimongkontip, <i>RECOFTC</i> Per Rudebjer
Evening	Welcome Dinner	

Tuesday, 22 November

Time	Activity	In-Charge
Theme 2: Exploring the retail and wholesale of AFTPs in Bangkok: Field Day		
07:30-17:00	Field Work in 4 Groups by Themes <ol style="list-style-type: none"> 1. Marketing of medicinal plants and products 2. Marketing of agricultural products (Thai fruits, etc) 3. Marketing of wooden furniture 4. Marketing of rattan handicrafts 	Somjai Srinmongkontip Poom Pinthep, <i>RECOFTC</i>

Wednesday, 23 November

Time	Activity	In-Charge
08:00-08:30	Introduction to Participatory Curriculum Development (PCD)	Per Rudebjer
08:30-09:30	Group Work: Reflecting on field trip experiences and preparing presentations	Joost Foppes
09:30-10:00	Coffee Break	
10:00-11:00	Presentation of field work experiences	Participants
Theme 3: Understanding markets and planning to enter them		
11:00-12:00	Marketing: Basic Theory	Tiago Wandschneider, <i>SADU Project, CIAT</i>
12:00-13:00	Lunch	
13:00-15:00	Enterprise Development <ul style="list-style-type: none"> • Market survey • Market chains • Business plans • Importance of institutions <p>The small-scale enterprise development process (SADU): Examples from Laos and Vietnam</p>	Willie Bourne, <i>SADU Project, CIAT</i>
15:00-15:15	Coffee Break	
15:15-17:00	Exercise: Mapping the knowledge, skills, and attitudes a learner would need to understand markets and plan how to enter them	Per Rudebjer

Thursday, 24 November

Time	Activity	In-Charge
Theme 4: Creating and managing small-scale business: gainful participation in markets		
08:00-12:00	Case Study Presentations and Discussions <ul style="list-style-type: none"> • Mao Tree: enterprise development of wild berries in Thailand • The market chain/value adding: small holder timber in Laos 	Somjai Srimongkontip Bernard Mohns, <i>GTZ</i>
10:00-10:15	Coffee Break	
10:15-12:00	Continuation of Case Study Presentations and Discussions <ul style="list-style-type: none"> • Non Timber Forest Product Markets • Bamboo and rattan markets in China 	Joost Foppes Xie Chen, <i>China's Forst Economics and Development Research Center</i>
12:00-13:00	Lunch	
13:00 – 17:00	Planning national case studies: Reviewing the options and getting the first round of reactions, reflections, and feedback	Country Teams
15:00-15:15	Coffee Break	
15:15-16:30	Short presentations by each national team	Country Teams

Friday, 25 November

Time	Activity	In-Charge
Theme 5: Managing the challenges of modern consumer markets: living with change		
08:00-09:00	China's role in markets for agroforestry products	Xie Chen
09:00-10:00	Organic & certified production	Wanlp Pichponsa, <i>Capital Rice</i>
10:00-10:30	Coffee Break	
10:30-12:00	Group Work 2: Regional trade: Reflections on Participants' Experiences from each country	Joel Tukan
12:00-13:00	Lunch	
13:00-15:00	Group work presentations	Participants
15:00-15:15	Coffee Break	
15:15-16:00	Group work wrap up	

Saturday, 26 November

Time	Activity	In-Charge
Theme 6: Towards teaching and learning markets for ATFPs		
08:30-09:30	Planning national case studies: Agreeing on structure of project description, time plan, monitoring and reporting	Country Teams
09:30-10:00	Coffee Break	
10:00-12:00	Continuation of Planning national case studies	Country Teams
12:00-13:00	Lunch	
13:00-13:30	Brief presentation of country case study concept proposals (problem, hypothesis/assumptions, objectives) for peer review	Country Teams
13:30-15:00	Development of full country case study concept proposal	Country Teams
15:00-15:30	Coffee Break	
15:30-16:00	Training-Workshop evaluation Closing program	Per Rudebjer
Evening	Closing dinner	

Attachment 2

Regional Training cum Planning Workshop on Agroforestry Landscape Analysis 22-26 March 2007, Rincome Hotel, Chiangmai, Thailand

Thursday, 22 March

Time	Activity	In-charge
0900	Opening Program <ul style="list-style-type: none"> • Welcome and Opening Remarks • Overview of Training-Workshop • Introduction of Participants and Training-Workshop Team • Group Photo 	David Thomas, <i>ICRAF-Thailand Coordinator</i> Jess C. Fernandez, <i>SEANAFE Technical Adviser</i>
1015	Coffee Break	
1030	<ul style="list-style-type: none"> • Surfacing of Expectations/ Mind Mapping on Landscape Agroforestry • Administrative Briefing 	Jess C. Fernandez Pong Pramualpis, <i>ICRAF-Thailand</i>
1200	Lunch Break	
1330	Overview of Landscape Agroforestry in Southeast Asia (Part 1) : Current Principles & Perspectives	Meine van Noordwijk, <i>ICRAF-SEA Regional Coordinator</i>
1500	Coffee Break	
1530	Overview of Landscape Agroforestry in Southeast Asia (Part 2): Current Policies and Institutional Arrangements	Meine van Noordwijk
1700	Integration of Learning and Evaluation	Jess C. Fernandez
1830	Welcome Dinner (Kantoke)	

Friday, 23 March

Time	Activity	In-charge
0815	Recap of Previous Day's Insights	Host Team
0845	Defining and Valuing Landscape Agroforestry Tradeoffs: Economic, Social, and Ecological Benefits and Consequences	Meine van Noordwijk
1015	Coffee Break	
1030	Overview of Landscape Agroforestry Research: Considerations and Challenges	Meine van Noordwijk
1200	Lunch Break	
1330	Analyzing and Monitoring Landscape pattern-process interactions and changes: Concepts, Drivers, Knowledge Sources and Methodological Considerations	Minh Ha Fragerstrom, <i>ICRAF-Vietnam Coordinator</i>
1500	Coffee Break	
1530	Presentation of Selected Landscape Agroforestry Case Studies Case 1: Participatory Mapping in Thailand Case 2: Watershed management in Vietnam	Pornwilai Saipothong, <i>ICRAF-Thailand</i> Minh Ha Fragerstrom
1700	Integration of Learning and Evaluation	Jess C. Fernandez

Saturday, 24 March

Time	Activity	In-charge
0815	Recap of Previous Day's Insights	Host Team
0845	Framing the Landscape Agroforestry Curriculum <ul style="list-style-type: none"> Identifying the expected competencies in AFLA of would-be graduates (knowledge, skills and attitudes) 	Jess C. Fernandez & Participants
1015	Coffee Break	
1030	Framing the Landscape Agroforestry Curriculum (cont.) <ul style="list-style-type: none"> Identifying AFLA key themes to address the required competencies 	Jess C. Fernandez & Participants
1200	Lunch Break	
1330	Brief orientation on conducting a case study and Planning the Country AFLA case studies	Jess C. Fernandez
1500	Coffee Break	
1530	Identifying Country Research Focus and Drafting of County AFLA Case Study Concept Papers	Participants

Sunday, 25 March

Time	Activity	In-Charge
0730 - 1500	Field Trip to Mae Cham	ICRAF-Thailand Staff
1500 – 1800	Cultural Tour of Chiang Mai City	ICRAF-Thailand Staff

Monday, 26 March

Time	Activity	In-Charge
0830	Discussion and Synthesis of Field Trip Insights	Host Team
0915	Presentation and Discussion of Country AFLA Case Study Concept Proposals	Country Coordinators
1015	Coffee Break	
1030	Charting the Way Forward for Conducting Country Case Studies and Discussion of Country Team Terms of Reference	Jess C. Fernandez
1200	Lunch Break	
1330	Training-workshop Wrap Up and Evaluation	Jess C. Fernandez
1530	Coffee Break	
1545	FREE TIME	
1800	Closing Program and Farewell dinner	

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The World Agroforestry Centre is an autonomous, non-profit research organization whose vision is a rural transformation in the developing world where smallholder households strategically increase their use of trees in agricultural landscapes to improve their food security, nutrition, income, health, shelter, energy resources and environmental sustainability. The Centre generates science-base knowledge about the diverse role that trees play in agricultural landscapes, and uses its research to advance policies and practices that benefit the poor and the environment.



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