The Social Sciences in Asian Forestry Curricula

Report on the Workshop held November 27 - December 2, 1988 in Khon Kaen, Thailand

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

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Edited by

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Workshop presented by the Tropical Resources Institute of the Yale School of Forestry and Environmental Studies and the Regional Office for Asia and the Pacific of the United Nations Food and Agriculture Organization. Workshop sponsored by the United States Agency for International Development's Forestry/Fuelwood Research and Development (F/FRED) Project, for which Winrock International is the prime contractor.

1989

ACKNOWLEDGEMENTS

The workshop organizers thank everyone who helped make the workshop such an informative and pleasant experience, along with the many people who contributed to the production of this Report. The members of the Advisory Group were foremost among the contributors to the workshop process; their good advice and good humor combined with long hours of work before, during, and after the workshop itself to produce a useful product. Credit also goes to the workshop participants, a group of the leading educators, researchers, and field practitioners in Asia, who shared their commitment, their experience, their sometimes differing opinions, and their pragmatic advice during an intensive week of work.

The staff of the U.S. Agency for International Development Science and Technology/Rural Development office gave much needed support to this effort at integrating the social sciences with forestry practice. Dr. Y.S. Rao's enthusiastic support of this undertaking and his commitment of FAO's Regional Office for Asia and the Pacific to serve as co-presenter of the workshop are deeply appreciated. The insights offered by Dr. Jeff Romm helped the organizers to clarify some of the key issues to be dealt with during the workshop. Dr. Sanga Sabhasri made a substantial and much appreciated contribution to the participants' understanding of the land use patterns observed during the train ride from Bangkok to Khon Kaen, and his remarks at the opening reception helped put our efforts into larger perspective. The organizers also wish to acknowledge the valuable lessons they learned while observing the June 1988 FAO expert consultation of Asian forestry educators; the current effort represents a logical continuation of the process begun at that seminal meeting.

Important logistical support was provided to the workshop organizers by Winrock F/FRED staff in the United States and the F/FRED Coordinating Unit in Bangkok. Dr. Niwat Ruangpanit's gracious assistance in handling several organizational details is much appreciated. And the organizers are deeply indebted to Mr. Nawin Minakan and the East-West Tours Co., Ltd., who made such excellent travel and accommodations arrangements for the workshop.

June Mount, Susan Brandi, and Celine Price of Yale admirably handled the heavy load of typing and correspondence associated with this effort. Proofreader Margery Maass made valuable comments on the later drafts of the proceedings. Thanks go to Jill Humphrey for formatting the final document on the computer. The substantial groundwork done by the initial project administrator David Tichnell was crucial to the success of the workshop and is greatly appreciated.

The Yale Tropical Resources Institute and the workshop organizers take full responsibility for the contents of this document.

CONTENTS

Executive Summary 1

Introduction 4

Workshop Session Reports

1. **Field Problems and Social Science Contributions** 8
   Junus Kartasubrata

2. **What We Know, How We Can Apply It: What We Don't Know, How We Can Fill the Gaps** 18
   J. Kathy Parker

3. **Field Visits and Project Experiences** 30
   Cor P. Veer

4. **Some Methods and Materials for Integrating the Social and Biophysical Sciences in Forestry Curricula** 45
   William R. Burch, Jr.

5. **Research Opportunities for Integrating the Social Sciences and Forestry** 51
   Amulya R. Tuladhar

6. **Curriculum Design** 59
   Srinivasan Chinnamani

7. **Critical Organizational Issues** 70
   Niwat Ruangpanit

8. **Reflections on the Workshop** 81
   Donald A. Messerschmidt & Tri B. Suselo

9. **Preliminary Recommendations** 84
   Cor P. Veer

Summary Report

10. **Some Recommendations for Action** 88
    J. Kathy Parker

Appendices

1. Participants 100
2. Working Group Members 103
3. Worksheets 104
4. Workshop Program 111

THE SOCIAL SCIENCES IN ASIAN FORESTRY CURRICULA

Report on the Workshop held
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EXECUTIVE SUMMARY

The Social Sciences in Asian Forestry Curricula Workshop was co-presented by the Tropical Resources Institute of the Yale School of Forestry and Environmental Studies and the Regional Office for Asia and the Pacific of the United Nations Food and Agriculture Organization. Funding for the workshop was provided through the United States Agency for International Development's Forestry/Fuelwood Research and Development (F/FRED) Project, for which Winrock International is the prime contractor.

The workshop involved participants from Bangladesh, India, Indonesia, Malaysia, Nepal, the Philippines, Sri Lanka, Thailand, the Netherlands, and the United States. The goals of the workshop were to:

- Support the integration of the social sciences in university forestry programs across the region, and
- Strengthen the role of the forestry and social science professions in improving existing and future farm, community, and other forestry programs throughout Asia.

The workshop focused attention on the nature of the Asian experience in forestry and social science practice, research, and education. Conclusions were drawn about where education, research, and practice can go in the future to strengthen the development role of the professions in the Asia region.

Throughout the world, the integration of the social sciences and forestry has assumed paramount importance because of changing values regarding trees and forests; the rise of new concepts in forestry, environmental studies, ecology, and the social sciences themselves; and changing government policies which are providing local people with more access to forests and trees through agroforestry, social forestry, and related programs designed to reduce poverty and provide employment to the rural poor in areas adjoining forests. These changes effect the way public and private natural resource organizations do their business, and in turn effect the way that training institutions do their business--especially those that prepare professionals to fill positions in natural resource organizations.

One of the workshop participants pointed out that forestry has been practiced in Asia for thousands of years, and that the intellectual antecedents of Asian forestry were the social sciences. Therefore, an examination of the roots of Asian forestry promises to lead to the rediscovery of some of the pre-Germanic forms of forestry practice. Forestry today is changing, and the Asians are among the leaders in this process of change. As one observer put it: 'we are riding the wave...the Asians are defining the way we are going'.

Workshop participants offered a wide range of thoughts and suggestions about what can be done in terms of forestry curricula development which integrates the social sciences. Section 9 of this Report, 'Preliminary Recommendations', outlines a set of priority actions identified during a brief workshop session, but does not reflect the full range of recommendations the participants made during the course of the other plenary and working group sessions. A more detailed set of strategic recommendations is found in Section 10, 'Some Recommendations for Action'. Following is a summary of the wide range of recommendations made throughout the workshop. It provides a set of potential themes and general actions that might guide thinking on curriculum development.

1. To develop institutions, programs, and faculty that integrate the social sciences in forestry curricula, efforts should be made to:

   - o Build on existing programs and capabilities,
   - o Provide incentives and opportunities to change,
   - o Reorient other relevant academic programs,
   - o Be dynamic to meet changing needs and desires,
   - o Encourage cooperation among disciplines in teaching and research, and
   - o Continue to support high quality education whatever the changing focus of disciplines.

2. To enhance social sciences in forestry curricula, research efforts should be used both as a source of new knowledge that can flow into the educational program and as a tool for educating forestry practitioners in how to generate and apply knowledge. These efforts should:

   - o Be interdisciplinary,
   - o Provide more opportunities for students to participate in some form, and
   - o Ensure that the results of research flow back into education in timely and appropriate (e.g., serve as problem-solving activities, are translated into management practices) fashion.

3. In networking educators and institutions that are working to integrate the social sciences in forestry curricula, efforts should emphasize:

   - o Sharing of knowledge and methods,
   - o Sharing of teaching materials,
   - o Sharing of teaching philosophies, and
   - o Twinning arrangements where appropriate.

4. To provide commitment and support of these efforts, governments should emphasize:

   - o More support for integrated forestry and social science education,
   - o Reorientation of government bureaucracies to hire professionals trained in people-oriented practices, and
   - o Incentives for universities to develop more partnerships for learning--partnerships between universities and forestry programs in the public and private sectors, between professors and practitioners, between professors and students, between students and practitioners.

5. In providing support for institutional development, donors should:

   - o Encourage more long-term approaches for education and research, and
   - o Provide incentives for innovative and flexible programs that integrate the social sciences in forestry.

INTRODUCTION

BACKGROUND

The Social Sciences in Asian Forestry Curricula Workshop was held in Khon Kaen, Thailand from November 27-December 2, 1988.[†] The workshop involved participants from nine countries (Appendix 1) who represented a range of disciplines (including forestry, social forestry, anthropology, agricultural economics, watershed management, and social psychology) and professional positions (including university professors and administrators, research scientists, and field practitioners). Advisors from India, Indonesia, Nepal, the Philippines, and Thailand, joined the facilitators to plan workshop activities. Each workshop session was led by an Advisor or facilitator; their interpretations of these sessions constitute the body of this Report. Panel discussions, plenary sessions, working group meetings, slide presentations, and a field trip to see and discuss some of the innovative work the Royal Thai Forest Department is conducting with the assistance of several Thai universities were the main activities of the workshop. The participants also shared voluntary working papers, examples of curricula from their respective institutions, and insights from their own experiences in curriculum development and integrating social science concepts and methods in forestry practice.

DISCUSSION TOPICS

Discussion topics included ways and means to introduce forestry concerns into social science education and mechanisms for exchange of knowledge between disciplines, institutions, and countries within Asia.

During the five day workshop, participant discussion centered on the following nine themes:

1. Substantive/conceptual aspects of integrating social sciences in forestry curricula.

2. Ways and means to introduce forestry concerns, and relevant concepts and methods from that profession, into social science education.

[†]Yale University's Tropical Resources Institute and FAO's Regional Office for Asia and the Pacific, with its Regional Wood Energy Development Programme, co-presented the workshop. Funding for the workshop was provided through the United States Agency for International Development's Forestry/Fuelwood Research and Development (F/FRED) Project, for which Winrock International is the prime contractor.

3. Institutional opportunities and constraints to the integration of the social sciences in farm, community, and other forestry education and research programs.

4. Ways to improve understanding of the curriculum design process and ways to improve teaching methods that integrate the social sciences in forestry.

5. Means to evaluate and implement curricular change.

6. Ways to integrate academic theories and practices with applied theories and practices, and to better link research with professional application in the field.

7. Promising ways to identify a relevant core of integrated concepts and skills with flexibility to be adapted to a range of different and changing educational institution contexts.

8. Mechanisms for exchange of knowledge between disciplines, institutions, and countries within the Asia Region.

9. Recommendations for concrete action and follow-up in three categories:

   - o Interdisciplinary research strategies that can be used as tools for knowledge generation and teaching,
   - o Curriculum design and development of educational materials, and
   - o Organizational issues.

Besides the several ancillary publications that accompany this Report, workshop outputs included networking with colleagues from across the region, initiating a process of multidisciplinary thinking, enhancing cumulative learning from the Asian experience, strengthening the new FAO Asian Network on Forestry Education, and improving understanding of the curriculum design process.

OUTPUTS OF THE WORKSHOP

This workshop and its direct outputs were designed as part of a discrete subactivity of F/FRED. The Report that follows details the deliberations of the participants during the workshop. The members of the Advisory Group and the workshop facilitators wrote the various sections of this Report. In addition, the Yale Tropical Resources Institute is producing a number of other products that serve as outputs of the process of organizing and implementing this workshop. These include:

- o A volume of voluntary papers contributed by participants at the workshop,
- o A curriculum evaluation and design questionnaire,

- Volumes of excerpts from selected literature in anthropology, political science, sociology, and economics,
- A bibliography of important Asian social forestry references, and
- A directory of key Asian forestry contacts.

"One of the most important and veritably palpable outputs of the workshop was the immense sense of possibilities, opportunities, and new horizons that was opened by the challenge of integrating social sciences in forestry and natural resources."

Other outputs that are somewhat less concrete, but perhaps more important include:

- Networking with colleagues from across the region.
- Initiating a process of multidisciplinary thinking to bridge the gap between the social sciences and forestry. Ideally, this process will become self-sustaining within Asia.[1]
- Enhancing the cumulative learning from the Asian experience in farm and community level forestry in order to assist Africa, Latin America, North America, and Europe to develop more human-oriented forestry.
- Strengthening the new FAO Asian Network on Forestry Education.
- Improving understanding of the curriculum design process.

While the task was formidable and important, the goals and objectives expansive, and the workshop schedule a test of endurance, the participants met every challenge. Their experience and insights provided a formidable and important body of knowledge to capture, organize, and present in this Report. Their thoughts were expansive as they exchanged ideas, debated issues, and considered the opportunities and constraints to integrating the social sciences in forestry education in Asia. Their energy levels and good humor, while tested, endured throughout the intensity of six days together. This Report is an attempt on the part of the workshop facilitators and Advisory Group to capture the breadth and depth of the participants' inquiry, deliberation, and response at the workshop.

CHALLENGES AND OPPORTUNITIES

This is a moment of real challenge and opportunity in Asian forestry schools and in the forestry profession itself. It is a time to set more complex goals that consider the needs and aspirations of local people, to bring in new analytical frameworks that require bridges and mechanisms for integration with multiple and diverse previously non-forest science disciplines, to apply new skills by untrained practitioners.

These serve as challenges not just to the forestry profession but to forestry education as well. The educational system is where practitioners are prepared for their work in the field, where researchers are trained to generate new knowledge, and where professors are trained to disseminate new knowledge to their students. Curriculum change is a key to meeting the challenge.

1.Tuladhar, in his edit of the draft Report, wrote, "One of the most important and veritably palpable outputs of the workshop was the immense sense of possibilities, opportunities, and new horizons that was opened by the challenge of integrating social sciences in forestry and natural resources. Contrast this with the other possible output, quite common in other meetings: the feeling of *deja vu*, with the same faces, same issues, few new ideas, and the perennial complaints of constraints against new initiatives. In this context, the workshop was singularly successful in charging the motors of new processes of thinking."

1. FIELD PROBLEMS AND SOCIAL SCIENCE CONTRIBUTIONS

Junus Kartasubrata†

SUMMARY

Two introductory panel presentations addressed field problems in forestry requiring social science inputs and the contributions of the social sciences to solving such problems. Panel members briefly discussed some case studies pertaining specifically to their countries. The remarks of panel members and participants suggested that familiarity with relevant social sciences would provide field foresters with better knowledge and skills to promote rural people's participation in the development of forest resources. Local participation is, under many conditions, a prerequisite if improvements are to be made in the productivity and sustainability of forest lands in developing countries. The workshop concluded that the social sciences play an important supportive role in meeting these forestry objectives, through improved knowledge and practices on topics such as community organization, communication, and the generation of appropriate techniques.

INTRODUCTION

This session report provides an overview of the two panel presentations that introduced 'Field Problems in Forestry with Social Science Implications' and the 'Contribution of Social Science to Solving Field Problems' to workshop participants. The facilitator for the panels was Dr. Junus Kartasubrata, with Dr. Yaouwalak Apichavullop as rapporteur. Field Problem panel members were Dr. Srinivasan Chinnamani, Mr. Shiva Achet, and Ms. Salve Borlagdan. Social Science Contributions panel members were Dr. Zahid Emby, Dr. Romana de los Reyes, and Dr. Sayogyo.

Local participation is, under many conditions, a prerequisite if improvements are to be made in the productivity and sustainability of forest lands in developing countries.

Many speakers from the floor made valuable contributions to the discussion, so that by the end of the two introductory sessions, the workshop attained a clear, albeit general, picture of the issues concerned.

†Professor, Faculty of Forestry, Bogor Agricultural University, Bogor, Indonesia.

Kartasubrata preceded the panel presentation with comments based on his paper 'Socio-Economic Aspects in Forest Management"[11]. Foremost among the field problems recognized in this paper is the consistent degradation of Asian tropical forest resources over the last two decades. According to an FAO report (Lanly & Rao, 1981), the total area under natural woody vegetation in 16 countries in tropical Asia in 1980 was 445 million hectares, of which 292 million were closed broad-leaved forests. Nine million hectares of the total closed forest area were deforested between 1976 and 1980.

The major factors driving deforestation in tropical Asia are shifting cultivation, encroachment, squatting on forest lands, and illegal and unregulated logging operations.

The major factors driving deforestation are shifting cultivation, encroachment, squatting on forest lands, and illegal and unregulated logging operations. Forest police squads have been deployed by forest agencies in the region to protect the forest from these kinds of disturbances, but to no avail because the pressure on the forest resource is so great. In the current situation, many people perceive foresters as their enemies.

Starting in the 1970s, governments, through national development plans, made concentrated efforts to rehabilitate degraded forest and land resources, and to stop further destruction. Foresters have begun to realize that more attention must be paid to local needs for forest goods and services. Until now, most of the riches produced from the forests have been captured by distant elites and have therefore been of little benefit to the communities surrounding the forests. The Eighth World Forestry Congress, held in Jakarta in 1978, addressed this concern with its theme of 'Forests for People'. This Congress marked the turning point of forestry in many developing countries toward a more participatory approach to forest management that includes the people in the decision making process and in the enjoyment of forest benefits.

Until now, most of the riches produced from the forests have been captured by distant elites.

Kartasubrata provided examples of social science-related programs that had been developed to alleviate some of the various forest degradation problems of Asia. He noted that the forest village program of Thailand and the resettlement programs of Indonesia attempt to stop or reduce forest destruction. He also pointed out that the large-scale reforestation and afforestation schemes by SAFODA (Sabah Forestry Development Authority) in Sabah, Malaysia are combined in many cases with settlement schemes to rehabilitate degraded forest and land resources.

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[11]Contained in the companion volume to this Report, entitled *The Social Sciences in Asian Forestry Curricula: Papers from the Workshop held November 27 - December 2, 1988 in Khon Kaen, Thailand*, R.E. Clausi (ed.), Yale Tropical Resources Institute, New Haven, CT, USA, 1989.

Additionally, Kartasubrata provided several examples of land tenure programs designed to give more security to forest dwellers and to promote improved land management practices:

The Integrated Social Forestry Program in the Philippines, Social Forestry programs in Thailand, and the Social Forestry Program of Java are examples of land tenure programs designed to promote improved land management practices.

- The Integrated Social Forestry Program in the Philippines includes, among other things, the issuance of Certificate of Stewardship Contracts and Community Forest Leases.
- Social Forestry programs in Thailand include the granting of usufruct certificates in national reserve forests under the *Sor Tor Kor* usufructuary land rights program and the Thailand Forest Village Program.
- The Social Forestry Program of Java includes an agroforestry component, locally known as *tumpangsari*, that is administered under an agreement between the forestry department and participating farmers. The agreement allows farmers to use forest land for the duration of a rotation cycle of a forestry crop that they plant (e.g., 10 years for Albizia; 60 to 80 years for Teak). This considerably extends the previous two year agreements, and allows farmers to plant and harvest horticultural crops after technical consultation with forestry staff.

Chinnamani began the panel presentation by reminding the workshop participants that forestry in India was at the outset people-oriented and approached from a social perspective. This orientation reflected a deep regard for nature, including forests, groves or individual trees, which were identified with religious beliefs, superstitions, magic, or faith in ghosts and angels. This reverence for the sacred elements of forests and trees saved wooded areas around the world long before the rise of professional conservation practices and aesthetic values.[1]

A reverence for the sacred elements of forests and trees saved wooded areas around the world long before the rise of professional conservation practices and aesthetic values.

Chinnamani also noted some of the problems of social forestry and related programs in tropical Asian countries that try to facilitate the activities of farmer groups, enhance participation in the development and management of forest resources, and improve incomes. He pointed out that in the social forestry programs of India, establishment of private forests on degraded agricultural land plays an important role. He observed that programs for larger individual farmers are apparently easier to handle than those for groups of marginal farmers, landless people, and tribals.[2]

As a forester, Achet raised a number of issues that field practitioners must be better trained to address. For example, as local expectations rise, foresters need more knowledge about how to respond to these expectations and how to promote constructive local participation in resource management. He also urged foresters to improve their

communications skills, so that they will be better able to question, learn from, and work with local people, thereby becoming more effective in dealing with the people's resource problems. Achet felt that practitioners need more knowledge about the different groups they deal with, whether communities, user groups, or individuals. He called for more social science information in the planning and monitoring of forestry programs. Finally, he suggested that the educational process should not produce resource managers *per se*, since the majority of resource managers are actually the farmers. Rather, he stressed that the educational system should educate those who will train these farmer/managers. Resource management trainers (i.e., forestry extension agents) are the people who will transfer technologies to the farmers, and who will work with farmers and local people in determining appropriate resource management strategies.

More social science information is needed in the planning and monitoring of forestry programs.

Borlagdan spoke as a field researcher who has worked in a pilot social forestry project. Her process documentation work in the Philippines monitors the step-by-step achievements of forest farmers as individuals and in groups, as well as the achievement of objectives by forestry staff. She also trains and directs community organizers, teaching them communication techniques and providing them with information about rules and regulations concerning project management. Her field experiences suggest some of the key areas where field practitioners have concerns and specify some of the major contributions of social sciences to participatory development activities such as social forestry. Specifically, the themes she addressed were:

Process documentation work in the Philippines monitors the step-by-step achievements of forest farmers. Community organizers are taught communication and project management techniques, including organizing, facilitating, training and educating, linking and negotiating, accessing, persuading, and enforcement.

- o Organizing--bringing people together to determine, plan, and accomplish certain objectives.
- o Facilitating--creating structures for problem analysis, farm technology assessment, planning, action, and reflection by and with people.
- o Training and Educating--devising and implementing appropriate training strategies with people, and developing demonstrations, coaching, and follow-through strategies.
- o Linking and Negotiating--accessing and communicating information to and from the community; creating links with markets, coordinating the delivery of services.
- o Accessing--locating and obtaining resources, managing allocation and distribution of resources by and with people.
- o Persuading--convincing people to act along certain lines.
- o Enforcement--communicating and enforcing government regulations.

- Project Management--planning, executing, supervising, monitoring and evaluating activities, accomplishing administrative tasks (e.g., record keeping, reporting, corresponding, managing funds).

Social science provides knowledge for strategic planning and management, methodologies for participatory research on communities, and approaches for reorienting government bureaucracies mandated to deal with local people.

PANEL ON CONTRIBUTIONS OF THE SOCIAL SCIENCES

De los Reyes initiated the panel on the potential contributions of the social sciences to forestry by noting that:

- Social science provides knowledge to non-governmental and private voluntary organizations for strategic planning and management.
- Social science provides methodologies for participatory research on communities, and for getting feedback and information from communities.
- Social science provides approaches for the positive reorientation of government bureaucracies that are mandated to deal with local people.

De los Reyes believes that the operational goals in this type of rural development forestry are to engage people in the management of the forest, with the ultimate goal being the empowerment of people so that they have more control over their lives in the future. She believes that a new social science should be taught to create a new generation of foresters who are trained to assist people in managing their own community forest systems.

Sayogyo touched on a range of issues that prompted further thought and discussion during the rest of the workshop. He described the forestry curriculum in his institution in Indonesia, where 17-25% of the curriculum consists of social science courses, including communications skills, economics, and marketing of forest products. He noted that socioeconomic issues played an even more important role in the agriculture curriculum. He also mentioned the importance of including social aspects in environmental impact assessment activities.

Emby provided a number of examples of social sciences in forestry in Malaysia and spoke of the importance of understanding the social structures of communities in forestry programs. He noted that it is important to draw heavily from the lessons of agriculture-based rural development because of the long experience in that area. He noted that the integration of the social sciences in forestry was a matter of balancing technical and social science courses over a long process of evolution.

DISCUSSION

In the discussions that followed the panel presentations, the participants made the following points:

- Tuladhar commented on the issue of people's expectations, stating that fulfillment of expectations or 'success' in forestry programs that deal with local people depends in great part on whether:

  - expectations are greater than the resource (biophysical and socioeconomic) capacity,
  - expectations are less than the resource capacity, or
  - expectations are equal to the resource capacity, in which case it is possible to reach an optimum use of resources.

A new social science should be taught to create a new generation of foresters trained to assist people in managing their own community forest systems.

- Achet noted that certain aspects of forestry, such as wood seasoning, have never received the attention of the social sciences. Yet, even in these technical aspects of forestry, an opportunity exists to examine these processes from the social science perspective in order to develop technologies that can serve the needs and capacities of less advantaged members of society.

Workshop plenary session

- Borlagdan raised a question that was debated during the rest of the workshop: Should social scientists do the work of social science in forestry activities or should foresters receive more training in the social sciences?

A farming systems approach involves the interdisciplinary application of agro-ecosystems analysis, rapid rural appraisal, and human ecology.

- Lantican noted that social forestry is merely one branch of the profession of forestry. He raised a question about the level of exposure to the social sciences that foresters need to have and how this exposure could be provided (e.g., short courses to help them learn how to integrate social science skills with their own field expertise).

- Ruangpanit emphasized the social and economic nature of many forestry problems, and stated that these problems cannot be solved using traditional forestry approaches alone. He agreed that the social sciences are critical in professional forestry training and noted the development of the social forestry curriculum at Kasetsart University in Thailand as one response to that need. He envisions the creation of a continuum of forester 'types', ranging from those who are oriented more toward the biophysical aspects of the profession to those who are oriented more toward the socioeconomic aspects.

The forestry profession covers a wide range of technologies and disciplines from wood science to silviculture to wildlife and range management to social forestry to agroforestry to forest village development.

- Chinnamani cautioned the group to expand its attention beyond a sole interest in rural forestry issues, since urban, town, and village consumers should be considered as well. He emphasized the importance of occasionally narrowing the focus of discussion from forest to tree level in order to consider the ways in which individual trees address people's needs.

- Sayogyo noted conditions in Indonesia and asserted that forest management in Java has to cope with overpopulation and attention to food crop production to feed the increasing population. Additionally, he noted the demands made on forest resources to provide fuelwood, fodder, and timber, citing as an example the increasing number of dairy cattle being fed on forest lands. He suggested the use of trees and grasses in watershed management as one approach to meeting many of these pressing rural development needs.

- Hannan asserted that in social forestry programs, two grand concepts exist--managing the people and managing the resource. The integration of social science disciplines, such as sociology and anthropology, can draw from a variety of associated disciplines and practices to provide contributions; e.g., social research design and methodology, agricultural extension, rural extension, training and

communications skills development, organization and management with line functions, human behavior at work, environmental science, field extension techniques and tools, social psychology, human ecology, and rural development planning and management.

- Chardoenwatana, who is engaged in farming and cropping systems research, recommended that the integration of the social sciences in forestry curricula also take a farming systems approach. This would involve the interdisciplinary application of agro-ecosystems analysis, rapid rural appraisal, and human ecology.

"Should we be managing the people, managing the forests, or managing the people's use of the forests?"

CONCLUSION

We may conclude from the two introductory panel presentations on field forestry problems and the potential contributions of the social sciences to solving these problems that a social participatory approach to forest resource management has multiple objectives, including the improvement of productivity of biomass/ha/year for the direct benefit of the participants concerned and for the greater benefit of society.

The training of foresters to meet these new objectives depends in great part on the kind of assignment the forester will have to fulfill. The forestry profession covers a wide range of technologies and disciplines from wood science to silviculture to wildlife and range management to social forestry to agroforestry to forest village development. Each of these sub-disciplines within the profession requires training in specific biophysical and/or socioeconomic disciplines at certain levels of profundity. The continuum of forestry skills required today, therefore, ranges from the very biophysically oriented to the very socioeconomically oriented. The level and intensity of integration will depend upon the place of each on the continuum.

REFERENCE

Lanly, J.P., & Y.S. Rao. 1981. Regional Synthesis. Pg. 1-109 in *Forest Resources of Tropical Asia*. Technical Report 3 (UN 32/6.1301-78-04), Food and Agriculture Organization of the United Nations, Rome, Italy.

1.Cor Veer, in his edit of the draft Report, stated, "We are dealing with different 'forestries' here, and it would probably be wise to maintain a clear distinction [between] professional activities, 'rural' forestry, or whatever."

2.Tuladhar, in his edit of the draft Report, raised the following points regarding the topic of this workshop session:

"The first problem is the issue of landless people and their relation to forest use. In Nepal, 'community forestry' is championed in the hills, where landlessness is not the problem. In the hills, less than one percent of the people in the average village are without land. The problem in these areas is due to the generally small, infertile landholdings. Since the hill farming systems are sustained by forests, the people are eager to have more State land accessible as Panchayat Protected Forestry. Villagers also have large grazing areas which are *de facto* communal property, but *de jure* State land. Villagers often perceive forestry on these community lands as the State's attempt to formalize its claim, so they react hostilely; however, they will eagerly protect and manage known State degraded forest because they hope to ultimately be given ownership of the land.

When this approach was replicated over 29 districts of the Terai Plains (contiguous with the Indian Gangetic Plain), the Terai Community Forestry Project faced a *de facto* and *de jure* shortage of community land and an average of 20% landless per village. This project and F/FPED have recently championed the small-farm approach. Project beneficiaries tend to be those who still have enviable woody biomass resources available to them from their homestead and farm trees, while the destitute landless must go to forests, 'community lands', or private forests to get wood and fodder for sustenance and income. This constituency is only targeted by a half-hearted taungya system. In a country like Nepal, where the possibility of generating industry to absorb such manpower is slim, the relation of the landless to forests will remain paramount and therefore must be 'put on the front burner'. Moreover, with the dawning realization that private farm trees meet much more of the per capita wood demand than was assumed a decade ago, and the failure of the monstrous fuelwood/deforestation crisis to arrive as was heralded in the seventies, attention should be shifted from the poor small farmers to the landless, the really destitute segment of Nepalese society.

A second point raised by the discussion is what role should professionals on the continuum between foresters and social scientists play in resource management; should we be managing the people, managing the forests, or managing the people's use of the forests? Too often, the professional's self-image is that of a top-of-the-line technician able to offer various management options to the decision makers. This in turn often leads to a deep-seated unwillingness on the part of the professional to sit in the decision maker's chair, for to do so would deprive the professional of his ability to say 'I told you so!'. It is a perverse irresponsibility, because professionals in developing countries do end up as decision makers. Because of their generally elitist backgrounds and premium educations, the country depends on them for most of the decisions regarding resource use. So, if we are to accept this honest role, professional foresters should recognize the potential contributions that the social sciences can make to forestry. These contributions include:

- o Training in the theories and skills of decision making.
- o Equipping resource management professionals with the means to identify the stated and implied goals in their roles as government, state, or university employees vs. in their roles as professionals.
- o Improving the professional's skills in identifying problems and negotiating their solutions.

In this context, subjects such as organizational politics, media management, and idea flow patterns may equip professionals to educate each other and their superiors through TV, radio, video, films, meetings, etc. Resource management professionals truly are initiators of change. By taking advantage of the skills and insights offered by the social sciences, resource management professionals can forge partnerships to lead change, rather than act as deadweights that hinder change."

2. WHAT WE KNOW, HOW WE CAN APPLY IT WHAT WE DON'T KNOW, HOW WE CAN FILL THE GAPS

J. Kathy Parker[†]

SUMMARY

During two working group sessions, the participants turned their attention to questions about what field foresters, social scientists, rural development specialists, and academics:

- o Know from theory, research, and field experience about the integration of social science and forestry/natural resources management to improve farm, community, and other forestry practices;
- o Know about how and when to apply this knowledge;
- o Don't know about the integration of the social sciences; and
- o Might do to fill these knowledge gaps.

INTRODUCTION

The tendency of bureaucracies to centralize activities and power may not coincide with the needs of foresters who must work in the field.

Following the panel presentations and discussion of field forestry problems and potential contributions of the social sciences toward resolving some of these problems, the workshop participants divided into three working groups (Appendix 2). In their groups, the participants continued the introductory discussions by: 1) outlining the range and scale of social science disciplines that are available, 2) discussing what we currently know about major socioeconomic issues in forestry, 3) outlining what we need to know, and 4) discussing how to fill these gaps in our knowledge and assigning a priority level to each suggested gap-filling activity.

Worksheets 1 and 2 (Appendix 3) served as guides for the discussions. The logic of Worksheet 1 ranged from:

1. Problem orientation (i.e., what are some of the major planning, management, and technology transfer problems that we must prepare our students to address); to

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2. Identification of the knowledge that we do have in the social sciences, social forestry, and related disciplines that can be communicated through our educational programs; to

3. Discussion of how we might best use or apply this knowledge to better understand and solve specific field forestry problems; to

4. Identification of places and sources where useful information and knowledge can be found; to

5. Exploration of better ways to organize and access the information and knowledge.

Existing experience and knowledge about applied social science can be used to create courses that cut across disciplines and thus transcend the rigid disciplinary structure of university organization.

The flow of Worksheet 2 ranged from:

1. Identification of the gaps in our knowledge; to

2. Determination of ways to fill these gaps; to

3. Specification of priorities for filling the gaps.

The following summarizes the substantive findings from both sessions for each of the three working groups. It is important to emphasize that this workshop activity was conducted to generate preliminary discussions that could identify problems and provide a common frame of reference during the rest of the workshop. The results of the deliberations of each work group reported in this section are, therefore, more generalized than exhaustive.

SUBSTANTIVE FINDINGS

WORKING GROUP SESSION ON THE PROBLEMS WE FACE AND WHAT WE KNOW

Working group I focused most of its attention on organizational issues as a major set of management problems that must be addressed. More specifically, the group looked at three problem areas: 1) the relationship of foresters with their bureaucracies; 2) the relationship of foresters with communities or target groups; and 3) the university structure itself.

The group first outlined the characteristics of organizational structures that contribute to management problems. For example, the tendency of bureaucracies to centralize activities and power may not coincide with the needs of foresters who must work in the field. Foresters often operate with inadequate knowledge about the communities in which they work; social scientists can supply theories (e.g., community development, organizational theory) and methods (e.g., Rapid Rural Appraisal, social mapping) that can be used to enhance the foresters' level of

understanding and suggest new modes of action. Existing experience and knowledge about applied social science can be used to create courses that cut across disciplines and thus transcend the rigid disciplinary structure of university organization.

Training in 'reconnaissance skills' is needed for field practitioners to enable them to identify specific tenure systems and to develop appropriate approaches for dealing with them.

Working group I also discussed where social science knowledge about organizations is found. Members noted that much of the substantive knowledge is found in case studies from across the region.

The group outlined two ways in which this knowledge or information can be organized and made more accessible. Courses can be offered to forestry students that capture and relate case study materials in relevant and usable form. A parallel approach would be the development of field study activities that provide this knowledge in realistic and usable fashion.

The members of working group II addressed a different set of management problems. The major topics and sub-topics they considered were:

- Government level problems, including tenure (formal and indigenous), administrative organization, laws, and regulations;
- Community level problems, including local organizations;
- Private household and farm level problems, including appropriate technology, assistance, and gender issues; and
- Commercial level problems, including control issues and replanting.

The group then outlined some of the contributions that existing social science knowledge can make toward understanding and addressing these problems. For example, the fact that a wide range and diversity of tenure types exist implies that a flexible approach is necessary. Training in 'reconnaissance skills' is needed for field practitioners--primarily mid-level personnel--to enable them to identify specific tenure systems and to develop appropriate approaches for dealing with them. The group also noted that political science can provide insights on issues of power and politics in administrative and organizational structures.

Looking at community level issues, working group II noted the role the social sciences can play in helping forestry practitioners look at issues related to local organizations. It was felt that the social sciences can identify flexible responses and alternative organizations at the local level to deal with resource management problems more efficiently.

Working group II also thought that the social sciences could contribute at the private household and farm levels of action by encouraging more local input into the development and adoption of technologies and by providing more insights into gender issues within households that affect forestry and conservation activities.

The group noted that at the commercial level, many problems deal with control and enforcement of existing rules and regulations. The group felt that the social sciences could provide insights both into understanding why enforcement practices are problems and how they can be improved to ensure more effective commercial production.

The social sciences can provide insights both into understanding why enforcement practices are problems and how they can be improved to ensure more effective commercial production.

Working group II listed a number of sources of social science knowledge across the region. These include:

- o Case studies or key studies that exist but need to be compiled in a form that field practitioners can use,
- o Programs and centers, such as the Forestry Development Center in the Philippines,
- o Small farmer development programs where field experience lends many insights,
- o Materials produced by innovative local projects that are appropriate to include in curricula, and
- o Innovative local programs run by individuals or non-governmental organizations.

Working group II concluded their session by suggesting several means of organizing present and future knowledge. Group members felt that to be successful, an approach needs to make use of a variety of channels; e.g., promoting regional and national seminars to share information, identifying and disseminating information across the region, providing information of specific relevance to local communities.

Working group III identified a wide range of management problems that need to be addressed. These include:

- o Identification of natural and human resource potentials and constraints;
- o Dealing with the conflicting needs of various interest groups associated with forestry activities;
- o Inadequate communication and organizational skills as well as lack of useful social science knowledge;

- Dealing with the dynamic nature of problems and shifting priorities;
- Legal and policy constraints;
- Lack of understanding of the fundamental causes of deforestation;
- Lack of local participation in planning and implementation of forestry policies;
- Limited understanding of applications and lack of information about social technologies;
- Improving the dissemination of fuel efficient, appropriate technologies; and
- Not knowing and not using traditional indigenous knowledge to enhance forestry practice.

It is important to contact information 'store houses', obtain excerpts from conflict resolution and management literature, interact with social scientists, develop interdisciplinary research strategies, and use interdisciplinary action research teams in program planning and implementation.

Working group III identified some of the knowledge available from the social sciences that could contribute to a better understanding of how to deal with each of these problems. Focusing first on resource inventories, the group specifically noted the importance of social surveys in contributing to knowledge of land tenure patterns affecting land uses and availability of resources. This kind of knowledge can help foresters identify appropriate forestry programs that fit specific land tenure arrangements.

Regarding the issue of conflicting needs, the group noted that the social sciences provide a range of methods for needs assessment. The social sciences can also help foresters recognize and understand the nature of heterogeneous interest groups.

Working group III felt that the social sciences can provide some important skills to help foresters. These include techniques and theories of communication and methods of organizing people or facilitating existing organizations to practice collective action.

Examples of the contributions the social sciences have to make in understanding legal and policy constraints include case studies of the environmental impact of agricultural policies, along with techniques for providing fast, constructive feedback from program implementation about results, impacts, and responses of people to program activities.

Working group III also determined that the social sciences can contribute by identifying the multiple and complex factors associated with deforestation; providing information about local participation at all stages

of forestry project and program identification, design, implementation, and evaluation; and facilitating the process of obtaining and organizing indigenous knowledge.

The group identified a range of possible sources of this knowledge. These include disciplinary knowledge (e.g., anthropology, sociology, social psychology, political science), theoretical literature (e.g., community theory, power and conflict literature, organizational theory, sociology of agriculture), case studies, institutions (e.g., University of the Philippines Los Banos, Tropical Resources Institute), and other sources (e.g., effective, experienced change agents and local leaders).

There is a lack of knowledge about the relationship between poverty and environmental productivity.

Working group III closed by providing some thoughts on how to organize and access this information. They suggested that it is important to contact information 'store houses' such as the Philippines Uplands Research Center, obtain excerpts from conflict resolution and management literature, interact with social scientists, develop interdisciplinary research strategies, and use interdisciplinary action research teams in program planning and implementation.

WORKING GROUP SESSION ON WHAT WE DON'T KNOW AND HOW TO FILL THE GAPS

In the second working group session, the three groups identified gaps in our knowledge, the means to fill these gaps, and priority levels for filling these gaps.

Working group I identified a range of gaps that need to be filled. These include:

- Understanding the nature of tenure rights (e.g., ownership of trees vs. land, common property vs. private property) for men, women, and children;
- Understanding the nature and types of labor laws that affect child labor;
- Identifying ways to empower beneficiaries and increase their active participation;
- Determining how forest bureaucracies work;
- Studying indigenous knowledge (e.g., ethnobotany) and traditional forest management systems and practices; and
- Identifying non-commercial and commercial plant species for particular locales and human preferences.

Farmers have a great deal of knowledge that is important to collect and apply.

The group suggested that research is the primary mechanism for filling these gaps. Members also noted that many gaps exist because knowledge has not been disseminated. This shortcoming could be rectified by conducting training courses or implementing extension programs that diffuse existing knowledge more broadly. The group noted that in many cases existing knowledge is not effectively applied to solving resource management problems. Group members suggested the dissemination of knowledge about incentives, the use of receptive organizations, and the provision of credit as ways to overcome this gap. Application of this knowledge will help to empower people and ensure their effective participation.

In looking at the priority that should be placed on filling the identified gaps, working group I noted that the placement of priority must be a focused, country-level decision. Every country in the region has its own priorities, with differences of priority existing within each country.

Working group II identified a number of gaps in knowledge. These include the need to:

- Improve the ways that trees fit into farming systems and that farming systems fit into forests,
- Devise techniques for assessing the impact of tree tenure on resource utilization and sustainability,
- Develop means for incorporating traditional management systems and organizational structures into ongoing and future efforts, and
- Suggest the means for more careful consideration of policy issues.

The group identified a number of opportunities to fill these gaps. These include:

- Refining and applying appropriate farming systems research and development diagnosis and design techniques;
- Improving agroecosystem analysis techniques at the micro-watershed level;
- Conducting case studies, literature reviews, and experiments to test hypotheses;
- Carrying out action research and case studies on traditional practices and management systems;

- Analyzing organizational structures and functions; and
- Improving the access of policy makers to useful information about people and resources.

Much knowledge is 'fugitive'; that is, it is held by many isolated projects and individuals.

The group placed high priority on farming systems work, studies on tree and land tenure, and policy issues. Medium to high priority was placed on studies of traditional practices, and medium emphasis on economic studies of tree and forest practices.

Working group III discussed three major gaps in knowledge. Members felt there is a lack of knowledge about the relationship between poverty and environmental productivity, the application of general knowledge to specific situations, and the application of broad program designs to specific situations.

The group felt that the opportunities to fill these gaps include action research to identify the relationships between poverty and productivity and the field work experience of researchers and project planners. Like working group I, group III felt that the level of priority is difficult to establish because of country-specific situations and changing conditions over time. Working group III, however, did identify the need to learn more about land and tree tenure issues as currently being a high priority in most countries.

The three working groups provided the workshop with an important basis on which the rest of the sessions were built. The groups identified a range of management problems that might be categorized by the following:

- Social issues, including local participation, conflicting needs of groups, people/forest interactions, local organization, gender issues, and indigenous knowledge;
- Economic issues, including marketing and the causes of deforestation;
- Institutional issues, including forest/people/agency interactions, university functions, politics and power, extension programs, and in-service training programs[1];
- Legal issues, including tenure, laws and regulations, and commercial actions unregulated by governments; and
- Socio-technical issues, including communications, organizational skills, and community organization skills.

While identifying the many complex issues to be addressed, the working groups affirmed their belief that the social sciences can contribute to their solution. These contributions include:

Traditionally, we have tried to apply biophysical solutions to all forestry problems, but this workshop is one in an increasingly long line of individual and collective efforts to broaden the base of knowledge and skills that can be used to apply socio-economic solutions.

- Knowledge of social systems, including the whys and hows of obtaining success in project participation; ways of acknowledging, identifying, and dealing with diversity; and ways of obtaining and organizing indigenous knowledge.

- Knowledge of economics, including marketing, and knowledge about some of the causes of deforestation and the links between poverty and resource productivity.

- Knowledge about institutions, including organizational theory and identification of a range of formal and informal organizations that can be useful in facilitating and promoting forestry practices.

- Knowledge about legal systems, including how to identify the differences between *de facto* and *de jure* systems of tenure.

- Knowledge of socio-technical techniques, including listening skills, rapid rural appraisal, social mapping, communications theories and techniques, community organization, needs assessment methods, and methods for collection of standard and comparable social data.

The working groups identified some important sources of this knowledge. Most agreed that farmers have a great deal of knowledge that is important to collect and apply. They also noted that some institutions (e.g., Khon Kaen University) can provide leadership in integrating the social sciences in forestry. The groups noted that much knowledge is 'fugitive', i.e., it is held by many isolated projects and individuals. Finally, they agreed that classical social science literature (e.g., organizational theory) can provide important insights and guidance on forestry/people interactions.

The working groups identified some common gaps in knowledge. These include:

- Social, including lack of sufficient knowledge about traditional management systems, and about the best means to capture local knowledge and apply it once captured;

- o Economic, including lack of knowledge about how to break out of the cycle in which poverty leads people to over-stress their local resources, which in turn leads to a decline in environmental productivity and an increase in poverty;

- o Institutional, lack of knowledge about interagency relationships;

- o Legal, including the need for more information on tenurial patterns; and

- o Socio-technical, including the need for more information about farming systems and about how to design programs for specific situations.

There seemed to be a high degree of consensus that the social sciences do have a contribution to make, but that it must be tailored, adapted, emphasized, and integrated.

The working groups identified a range of ways to fill these gaps. These include supporting farming systems research, agroecosystems research at the micro-watershed level, action research, literature reviews, case studies, organizational analyses, field experience, and training and reorganization to share knowledge and to apply what we already know.

INTERPRETATION AND CONCLUSIONS

Several major points were emphasized by the participants during the workshop's first round of working group sessions.

Farmers, foresters, academicians, development practitioners, and others confront a range of problems in identifying, planning, managing, investigating, monitoring, and evaluating problems related to natural resource management generally, and to farm, community, and other forestry programs more specifically. Some of the problems have simple solutions; others must be addressed in more systematic and complex ways.

Some forestry problems may require purely biophysical solutions, such as finding drought resistent species. Solutions to many forestry problems, however, must reflect not only the biophysical nature of the problems but also the social, political, economic, and institutional aspects of the problems as well. For instance, population pressure, scarce resources, and the maldistribution of resources are major causes of people moving onto steep slopes to cut trees. Recognition of the biosocial aspects of a resource problem such as this is the first step toward finding a solution (i.e., foresters knowing that they need new knowledge and skills)

Traditionally, we have tried to apply biophysical solutions to all forestry problems, but this workshop is one in an increasingly long line of

individual and collective efforts to broaden the base of knowledge and skills that can be used to apply socio-economic solutions. As with other forums of this sort, it was striking to hear of the commonality of problems such as land and tree tenure, the need for local participation, outmoded and unresponsive organizations, etc. But, it was equally striking to hear the variations on each of these themes across the region and within the individual countries.

Two themes that came out of these sessions were learning while doing, and linking as a conduit of learning.

At this early stage of the workshop, participants were striving to identify a common ground and 'vocabulary' for discussion, both from forestry and from the social sciences. There seemed to be a high degree of consensus that the social sciences do have a contribution to make, but that it must be tailored, adapted, emphasized, and integrated. There was acknowledgement of the fact that some successes at integrating the social sciences exist and should be tapped and used as learning tools to prepare field practitioners to work in rural development, social forestry, and related fields.

There was discussion and acknowledgement that knowledge and concepts from more classical social science literature should be tapped. Participants wondered where it was, how to access it, and how to use it. A major concern is finding ways of making the knowledge from that literature base more relevant and useful to professors who must teach it and practitioners who must apply it. It is clear that many gaps in our knowledge remain to be filled.

Bureaucracies (e.g., government agencies, universities, research centers, donor organizations) must be willing to acknowledge these conclusions and support them in constructive ways in order for the integration of the social sciences in forestry to serve as a paradigm for focusing university curricula that will better prepare field practitioners, professors, and researchers.

During the rest of the workshop, questions arose about the appropriateness of regional strategies to fill gaps in knowledge; our ability to actually generalize across many cases, balanced with caution about the wisdom of generalizing; the difficulty of prioritizing knowledge gaps to be filled and identifying who is best suited to fill these gaps; and how to develop a process for planning and implementing this effort. In the effort to generate new knowledge it is important to address institutional issues and to include them in the educational process. Some of these issues include how to develop the skills and training of people to fill knowledge gaps, how receptive will individuals and institutions be to integrated knowledge from various institutions, what is the ability to access and the ability to apply existing knowledge, what is the support for integrated efforts, and what are the training opportunities to enhance faculty and field practitioner capabilities to better link research and education and to better gain access to policy makers.

The participants in the workshop were to stress a number of themes throughout the workshop. Two of these came out during these initial working group sessions:

- Learning while doing, and
- Linking as a conduit of learning--linking students with professionals, linking professionals with farmers, linking academics with researchers.

1.Tuladhar comments: "How about the rigid, often covert, mandates of institutions; e.g., government forest departments that protect government land before serving the people by meeting their need for forest products."

3. FIELD VISITS AND PROJECT EXPERIENCES

Cor P. Veer†

SUMMARY

The nature of practical problems at the field level illustrates the need for improved integration of social and forest sciences. Therefore, the workshop provided ample opportunity to not only discuss field problems in an analytical manner, but also to see examples of field problems and the innovative ways in which these problems are being addressed.

Workshop activities included a train ride, field visit, and slide presentations on resource issues by several participants. The workshop commenced with a train ride from Bangkok to Khon Kaen. The trip provided participants with an opportunity to observe the gradual changes in landscape and to discuss the reasons and possible implications for resource management with our Thai hosts and participants.

Workshop participants also spent one day in the field visiting the pilot sites of the Thailand Upland Social Forestry Pilot Project, where they observed and discussed issues concerning the integration of biophysical and socioeconomic factors in more detail. Participants from Indonesia, the Philippines, and India completed these activities with the presentation of slides and discussion of projects in their countries.

TRAIN RIDE FROM BANGKOK TO KHON KAEN

In the Central Plains, people grow trees around their houses primarily for subsistence purposes. They also expect that land values will increase as suburban areas expand, and are using trees as boundary markers for landownership.

The 400 kilometer railway line from Bangkok to Khon Kaen passes through three different types of landscape, ranging from the fertile, wet paddy heartland of Thailand to the much dryer and less fertile Khorat Plateau (Map 1). On this introductory field trip, the workshop participants benefited from the company and the observations of Dr. Sanga Sabhasri. As permanent secretary of the Ministry of Science, Technology and Energy, and former Dean of the Forestry Faculty at Kasetsart University, Dr. Sanga played a major role in establishing many of the forest plantations and conservation activities seen from the train. He helped to explain the processes and causes of the land use patterns observed by the participants.

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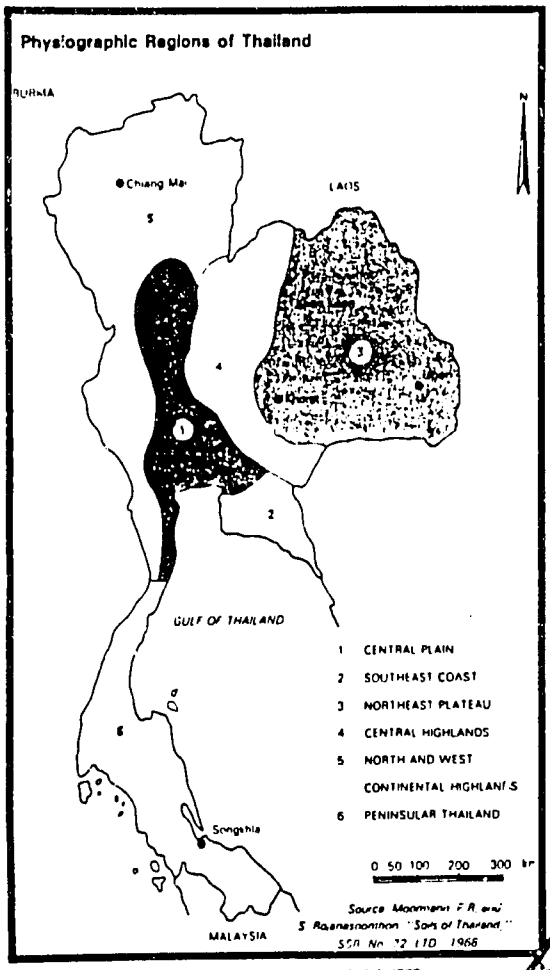
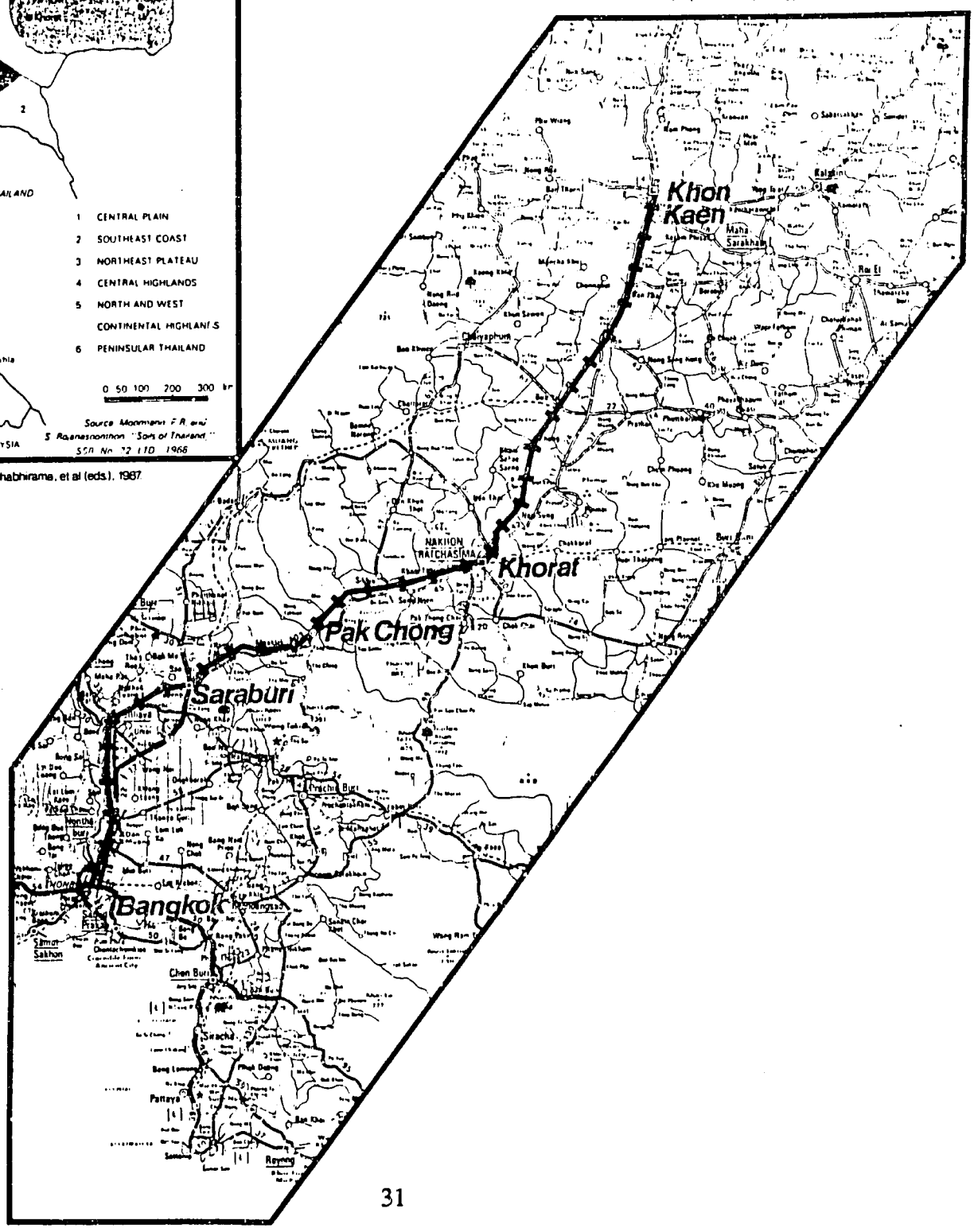
Map 1

The Route from Bangkok to Khon Kaen



Source: Anat Arbhabhirama, et al (eds.), 1987.

Railway Line



In the Central Plains, trees in villages are the most obvious vertical landscape features. People grow trees around their houses primarily for subsistence purposes. The variety of products obtained from these trees, such as food (e.g., mangoes, tamarind), fuelwood, shade, and construction materials, is important to meet household needs.

Since the insurgents' recognition of the rights of villagers to the land that they cultivated was the basis for their popularity and local support, the government decided to make land allocation one of the cornerstones of its containment policy.

More recently, people have established plantations of *Eucalyptus camaldulensis* and *Casuarina junghania*, ranging in size from small blocks to 10 hectares or more. The people have created these plantations based on their expectation to profit from the tree crops, particularly from the sale of poles for construction. They also expect that land values will increase as suburban areas expand, and are using trees as boundary markers for landownership. With the decline of external demand for rice, Thai farmers are finding other ways to increase their household income. Many local people are converting their land from paddy to dairy production in response to this situation.

Some 100 km from Bangkok, on the way from Saraburi to Pak Chong. the landscape gradually increases in altitude. Only 30 years ago, a dense forest, known as the 'forest of fire' because of the local incidence of malaria, covered this area. Most of this forest has been cleared in the intervening years, and farmers have conserved only a few trees in their paddy fields, or in their fields of corn, cotton, and cassava.

Near Khorat (200 km northeast of Bangkok), farmers are growing some *Leucaena leucocephala* principally for fodder and some small plantations of *Eucalyptus camaldulensis* for sale as poles, timber, or pulp. But in the area of Khorat, local inhabitants continue to cut forests on the hillsides and along the improved road network.

Workshop participants waiting for the train in Bangkok

In the last 200 km from Khorat to Khon Kaen, the landscape reflects a pattern of rice in lower paddy fields; corn, cassava, and sorghum on the higher fields; and increasing density of cassava-collection and processing activities. Farmers also grow Eucalyptus in this area for the pulp and paper mill in Khon Kaen.

With increased accessibility, prospects of forest village land allocations, and infrastructure development, in-migration increased sharply as peace and security were restored to the area.

FIELD VISIT TO BAN PHU HANG IN THE DONG MUN FOREST

Background[††]

Among the eleven villages in the Thailand Upland Social Forestry Pilot Project (TUSFP) are Ban Phu Hang and Ban Non Amnuay, which are located in the Dong Mung Forest Reserve of the Lam Pao watershed in Kalasin Province--a two hour drive to the northeast of Khon Kaen (Map 2). The Government designated the 590 square kilometer area as a National Reserved Forest in 1964 when it was still covered by thick dry dipterocarp forest in lower areas and dry evergreen forests at higher elevations. The Forest was officially closed to settlement and logging during the late 1960s. But severe encroachment of the Dong Mung Forest followed the creation of the Lam Pao Reservoir in the early 1970s. Villages displaced by the reservoir were reestablished along the Forest's margins. Between 1973 and 1982, more than 48% of the watershed was deforested as farmers expanded the area devoted to upland crops. The wildlife population, which included tigers, elephants, monkeys, barking deer, wild pigs, monitor lizards, and birds, was also severely depleted during this period.

The first permanent settlers arrived at the Phu Hang village site in 1971. Settlement of the area and forest clearance accelerated after 1973 with the opening of concessions for mechanized logging and increased in-migration of settlers from other provinces.

During the same period, leftist guerilla forces began operating in the area and sought to control land claims and impose taxes on loggers. Malaria and increasing armed conflict between guerilla forces and border police

resulted in some out-migration during the mid-1970s. However, most settlers who remained dug bomb shelters and reached some accommodation with the guerilla forces based in the forest west of Phu Hang. Fighting intensified as the Thai Army and Border Patrol Police began reasserting government control in the area after 1977. The Communist insurgents who had controlled the area had recognized the rights of villages to the land that they cultivated. Since this was the

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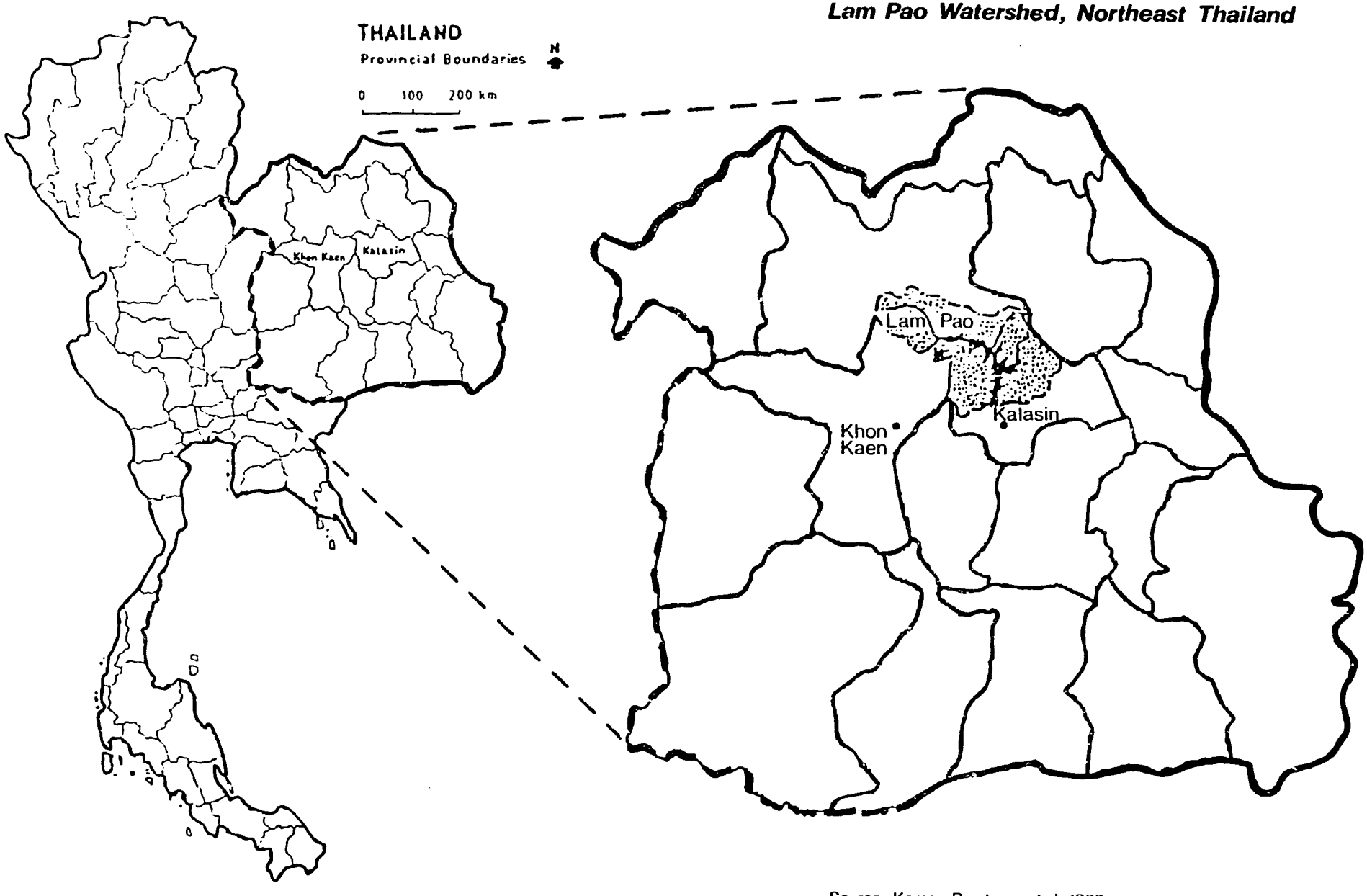
[††]This background description borrows heavily from the paper prepared by Pragtong et al. (1989), cited under References at the end of this section of the Report.

Map 2

Lam Pao Watershed, Northeast Thailand



Source: Komon Pragtong, et al., 1988.

basis for the insurgents' popularity and local support, the government decided to make land allocation one of the cornerstones of its containment policy. The three programs devised for land allocation were Sor Tor Kor (STK) non-transferable user's certificates for a 25 year period, village forest regulations, and the Land Reform Program.

The objectives of the TUSFP are to develop practical field diagnostic tools, guidelines, and procedures; provide training for RFD staff and technical assistance to villagers; and strengthen RFD staff in social forestry practices.

The government began to make other changes in the area as well. It converted the old oxcart trail through Phu Hang into a laterite road which was extended to the Kalasin Provincial capital in 1978-79 and paved with asphalt in 1983. It also established the Dong Mun Forest Village Project in 1979 under the Development for Security Project which included the Phu Hang village. Concentrating dispersed settlers into a central village, the government provided reservoirs, deep wells, schools, and health facilities. The government also introduced a reforestation project that seeks to ensure employment benefits for the villagers. With increased accessibility, prospects of forest village land allocations, and infrastructure development, in-migration increased sharply as peace and security were restored to the area. Settlement expanded to the site of Non Amnuay, which became an official village in 1983 and site of a Land Entitlement Program (STK) in 1984.

The two villages have grown considerably. Phu Hang is now a village of 460 households with a total population of 2,887, separated into three sub-village administrative units. Fifty-eight Phu Hang households (12%) claim to be landless. Non Amnuay has 230 households and a population of 1,480. Villagers who resided in Non Amnuay prior to 1982 are entitled to land allotments under the STK Program. Twenty households (9%) in this village claim to be landless.

Komon Pragtong describes the TUSFP at Don Mun Forest Camp.

What we saw was not a combination of forestry and social science; it was a combination of new forestry and new social science.

In July of 1988, the Royal Forest Department (RFD) began to implement the TUSFP, with the support of the Ford Foundation and in collaboration with Kasetsart, Khon Kaen, and Chiang Mai Universities. The two and a half year project will cover eleven villages, including Phu Hang and Non Amnuay, and has the following objectives:

1. Develop practical field diagnostic tools, guidelines, and procedures. A set of pilot projects will be developed to demonstrate the feasibility of involving local communities in the development of land management plans. Community organizers will catalyze local participation.

2. Provide training for RFD staff and technical assistance to villagers on how to establish village-based agroforestry plant propagation facilities and on the other technologies identified in the local plan.

3. Strengthen the capabilities of RFD staff in social forestry practices.

The TUSFP is an innovative approach the RFD is testing in its efforts to manage human-forest interactions and cope with the serious deforestation problems of the country. The TUSFP approach is similar to techniques being used in other Southeast Asian countries, such as the Philippines and Indonesia. RFD intends to place well-trained Community Organizers (CO) in the largest villages. The COs will serve as the link between the villagers and RFD to initiate participation and involvement of the villagers/target clientele in sustainable forest resource management in accordance with forest policy objectives. RFD has solicited the assistance of various institutions, including Kasetsart University (KU), Khon Kaen University (KKU), and Chiang Mai University (CMU), to help integrate its own experiences and technical expertise with knowledge from the social sciences.

RFD and other implementors conceptualize this as an iterative learning process. The emphasis during this process will be on generating a flow of information regarding resources and community interactions, incorporating the information which is relevant to local communities into the monthly work plans and activities for these communities, reviewing the effects of these activities at the community level, and modifying activities where necessary (Figure 1).

Critical to project implementation is the use of regular monthly meetings to facilitate information sharing and help determine monthly work plans, activities, and guidance for target communities. As Figure 1 shows, at each monthly meeting, COs present information and knowledge about the local population and their resources. RFD officials report on their policies, technical insights, and day-to-day management experiences. Researchers from the universities provide their observations and findings (i.e., KU on forestry, KKU and CMU on social sciences).

Figure 1

Conceptual Model of Integration & Implementation of TUSFP

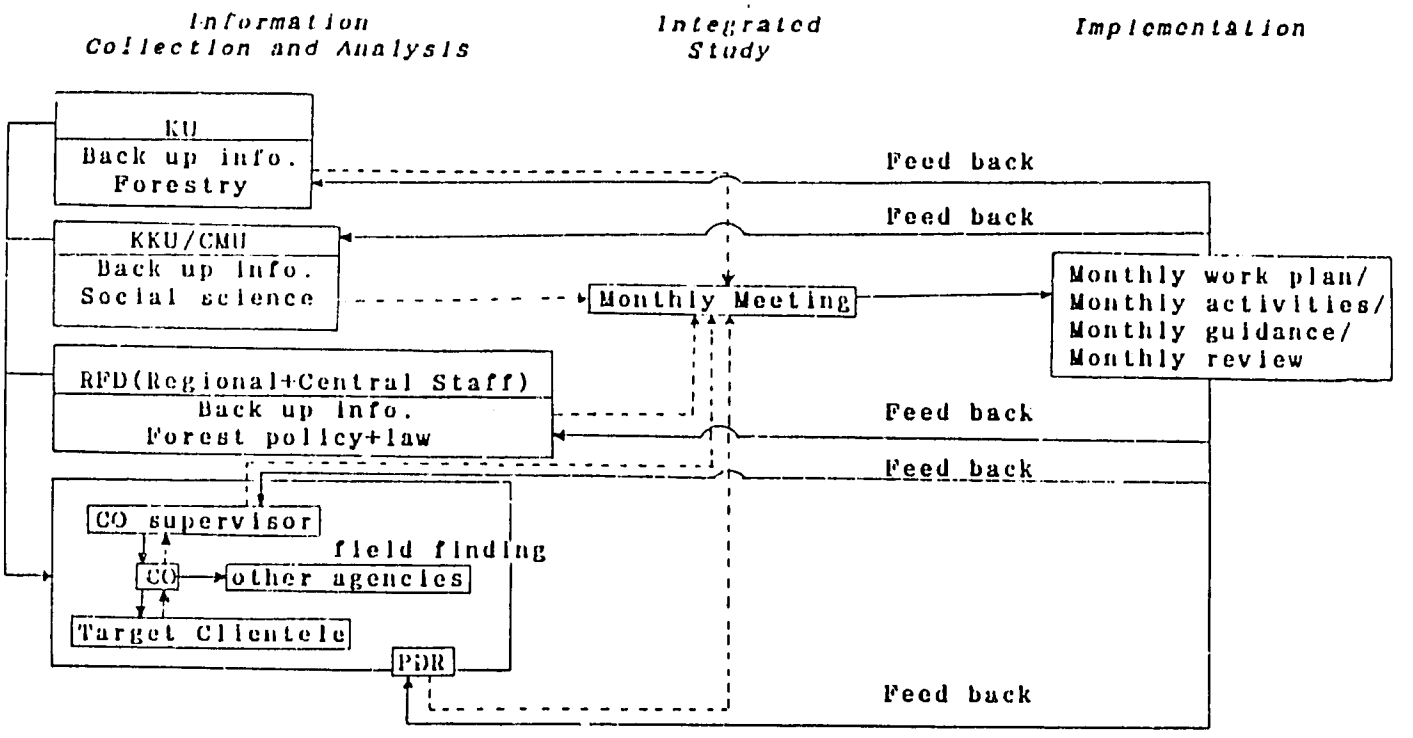


Figure 2

Thailand Upland Social Forestry Pilot Project Planning

Workplan for the calendar year 1989, Kalasin Province.

1. Ban Phu Hang Moo 3, 5 and 8, Tambon Dong Mun, Amphor Nong Kung Sri.
2. Ban Non Amnuay Moo 12, Tambon Tha Kan Tho, Amphor Tha Kan Tha.

Duration: January - December 1989.

Main Activities:

A. Study to obtain basic information regarding the order of thinking, knowledge, and understanding of target clientele.

B. Initiate long-term self-reliance of community regarding forest conservation, social forestry, agriculture, and forest management, by using training and visit (T & V) and field trips.

C. Preparation of community land and land use surveys.

D. Extension and development on social forestry work.

E. Monitoring and evaluation.

Source: Komon Pragtong, et al., 1988.

The new forester is a technically trained person with multidisciplinary knowledge and a sense of social responsibility. The new forestry is a discipline that looks at land use more broadly and erases dichotomies between agriculture, forestry, and other practices.

As shown in Figure 2, the planning of new activities, preparation of work plans, and determination of the type of guidance needed by the communities, as well as modifications to ongoing activities, take place simultaneously at monthly meetings. This is done by utilizing relevant information (e.g., local knowledge and technologies, existing organization potentials) to define activities for each community. For example, project implementors set up a tree nursery in Phu Hang as a means of organizing the villagers. Only genuinely interested villagers were selected to participate in this activity. Since then, the villagers have helped identify five additional sub-projects for implementation, including protection of a hill on which a temple is located, assistance to a farmer who has preserved a piece of forest on his own land, and development of livestock, homegardens, and small-scale fisheries. Most, if not all, of the activities in this effort can be characterized as stages in a learning process.

Lessons Learned

A discussion following the field trip provided a list of lessons learned by participants:

- What we saw was not a combination of forestry and social science; it was a combination of new forestry and new social science. It is a new outlook and a new process that needs to evolve. It needs acceptance by peers in agencies, universities, donor organizations, and related institutions.

- The sociology of technology is a new area that needs to be explored in more detail.

How can the emergence and convergence of a new forestry with a new social science be accomplished?

- A question arises: What is the new forester/forestry? The answer may include:

  - Technically trained people with multidisciplinary knowledge and a sense of social responsibility.

  - A discipline or paradigm that looks at land use more broadly and erases dichotomies between agriculture, forestry, and other practices.

- Other questions arose that need to be answered: How can the emergence and convergence of a new forestry with a new social science be accomplished? What should the results be? What are the roles of the various disciplines in this process? How can the knowledge from each disciple be integrated? What concepts and theories from each are relevant to the integration?

- It is important to chose the best methods and techniques from the social sciences. The techniques may actually be better developed than the theories and the concepts.

- A number of career issues arose about foresters and social scientists working in this kind of action program. Often, no rewards or means of support exist for these people. It is necessary to reevaluate the role of the professor in education and in action research of this sort.

Social science techniques may actually be better developed than the theories and the concepts.

- Forestry is a 'kingdom'. Social science only comes in when it is invited. It is important for the 'new' foresters to work within the system to help change it.

- Collaboration between universities and field professionals should be encouraged.

- Fundamental questions arise: Should the emphasis be 'social sciences in forestry' or should it be 'forestry in social sciences'. One recommendation is that a new domain or 'culture' should arise.

Should the emphasis be 'social sciences in forestry' or 'forestry in social sciences'?

- Funding is critical to enable (i.e., provide an incentive for) each discipline to be more flexible. Concern also exists about projects where outputs are expected and where products are more valued than the process which is longer term and may require either more funding or funding over a longer time horizon. Another funding issue relates to keeping 'funding for the process' independent of 'funding for products', thereby making it easier for the process to unfold over time. It might be useful to look at the history and success of various funding methods to determine which provide the optimum incentives for the 'new' forestry.

- We need to get more information on heretofore unreported experiences.

Funding is critical to enable each discipline to be more flexible.

- Other substantive lessons can be drawn from the institutional, legal, security/defense, and resettlement issues raised during the field trip.

- We need to remember that time will tell us whether this new combination of disciplines/professions will be fruitful.

- With more shared knowledge, we will begin to have more options from which to choose as we continue to try to understand and improve the linkages between people and resources.

SLIDE PRESENTATIONS

Major Issues and Activities in the Kalimantan-Sulawesi Social Forestry Pilot Program in Indonesia

by Nengah Wirawan

Putting a halt to logging by timber companies is much simpler than stopping shifting agriculturalists.

Two of the major factors behind the dwindling tropical forest resources of Indonesia are logging activities by timber concessionaires and shifting agriculture by villagers. Putting a halt to logging by timber companies, if required, is much simpler than stopping the shifting agriculturalists. The Indonesian government has revoked logging permits, but it has no mechanism for the prescriptive control of villagers who practice shifting cultivation. The Pilot Program in Social Forestry, begun in early 1987, is an attempt to find ways of helping villagers make a living from the land without destroying the forest and forest resources around them in the process. Slides shown described Program activities in Kalimantan and Sulawesi.

The first group of slides showed the issues and problems faced by project staff in South Sulawesi. Hills and steep slopes are being stripped of their forest vegetation, producing serious effects downstream in these river basins. For example, a number of villages and important bridges have been destroyed, agricultural fields have been flooded, and fish farm stock washed away by flash floods and landslides brought about by deforestation in the headwaters. The Indonesian government has recognized the severity of this problem and has begun massive regreening and reforestation programs in all parts of the country, though to date the results of these programs have been less than had been hoped.

Villagers practice certain forms of small-scale, family-level forestry that the Social Forestry Program is trying to adapt for use in other regions. One example of these systems is the local method of managing the *kemiri* (candlenut, *Aleurites moluccana*) forest in lowland areas in Camba, near the city of Ujung Pandang, South Sulawesi. Slides were shown of the collection and sale of candlenuts, which are used locally as a spice and sold for export. Another example shown was the management of the *akasia* (*Acacia decurrens*) forest of the mountainous area around Kanreapia, Malino, which is also near Ujung Pandang. These trees are cut for firewood, wood pulp, and tannin.

The remainder of the presentation was devoted to a review of Pilot Program in Social Forestry activities in a village in the Middle Mahakam Area of East Kalimantan. In this village, the Program works with the Tunjung people, who practice shifting agriculture in rather poor, sandy soils. These soils generally cannot support more than one cropping cycle. This forces the Tunjung to cut virgin fields out of the forest nearly every year. Besides shifting agriculture, the Tunjung also support

themselves by making canoes, fishing, hunting, trapping animals for sale to the pet trade and for their skins, and collecting forest products such as rattan and fruits. One of the Program's goals in this village is to work with the villagers to develop ways to make their agricultural methods less taxing on the land, thereby reducing the need to constantly shift fields.

A possible reason for the slow progress being made in organizing community participation may be related to the theme of this workshop, i.e., insufficient social science training of the community organizers.

The villagers spend a great deal of their time camping at their agricultural fields or working in the forest, which has made it difficult for the Program to gather everyone together to make plans and decisions. In general, the Program carries out its activities through the 'learning process approach' (Korten, 1980) by using 'process documentation techniques' as described by De los Reyes. The villagers are helped to:

1. Make an assessment of their community, environment, and resources, as well as their methods of utilizing these resources;

2. Organize, motivate, and train community groups;

3. Develop management plans for specific areas, as agreed to by the community groups and the Government; and

4. Implement the management plans.

In these activities, the Program plays the role of community organizer, motivator, facilitator, and, sometimes, negotiator between the villagers and the Government. The Program places a university graduate and a high school graduate who have had one month common training in each village as Community Organizers (CO) to live among the villagers. Dr. Wirawan explained that, as Facilitator and Research Coordinator of the Program, he visits the COs at least once every two months. During these visits, he reviews ongoing activities with the COs and the villagers. The results of these meetings are reported to the Provincial Advisory Committee and the National Advisory Committee in Jakarta.

The difficulty of gathering and motivating people under the circumstances in this area of East Kalimantan is highlighted by the fact that the COs spent almost one and a half years in the Tunjung village before they were able to get a commitment from enough people in the community to form a local group. Dr. Wirawan concluded by noting that besides local social conditions, a possible reason for the slow progress being made in organizing community participation may be related to the theme of this workshop, i.e., insufficient social science training of the COs. He hopes that experience with the Pilot Program will supply insights as to what it takes to make a good CO, the level and nature of training they need, and how the most effective COs can be produced.

Social Forestry in the Philippine Uplands
by Salve Borlagdan

This presentation focused on of one of the three social forestry pilot projects being conducted in the Philippines under the Upland Development Program (UDP) of the Philippine Department of Environment and Natural Resources (DENR). The experiences gained and lessons learned in these projects will be used by the DENR as it develops its community organization capacities to better involve uplanders in its Integrated Social Forestry projects. These projects aim to stabilize the upland environment and increase productivity by promoting agroforestry techniques, provide security of land tenure through a system of individual or communal stewardship, and facilitate the formation of strong local organizations to sustain development efforts.

Slides illustrated the denuded, impoverished soil conditions in the project target community and some of the agricultural activities of the villagers that have contributed to this situation. Highlights were then shown of project agroforestry and community organizing interventions, including the establishment of nurseries and demonstration farms, distribution of planting materials, election of community representatives, and techniques for ensuring women's participation in project activities.

A learning process approach to the development of institutional capacity is used in the UDP. Lessons learned from process documentation research reports, other Program documents, and undocumented field experiences are being compiled by the Upland Development Working Group, a multidisciplinary body helping the DENR to draft an implementation manual for participatory integrated social forestry projects.

Watershed Management and Agroforestry in India
by S. Chinnamani

Dr. Chinnamani began his presentation by noting that the degradation of India's environment is such a severe problem that the country's Prime Minister has spoken out about it. In an address to the nation on 5 January 1985, the Prime Minister decried the continuing deforestation that is leading India into a major ecological and socioeconomic crisis. Intense pressures are exerted on India's natural resources by the country's 800 million people and their hundreds of millions of livestock. India's 329 million hectares total area includes about 68 million hectares of forestland, 140 million hectares of cultivated land, and 93 million hectares of wasteland. Because the country's productive forestland cannot supply adequate amounts of fuel, fodder, timber, and other forest products for the people, the government has set a goal to reforest 5 million hectares per year.

Although only 30-40 percent of the reforestation target has been met, it is possible to point to promising examples of successful environmental rehabilitation. Slides were shown of denuded and severely eroded hillsides that were brought back under dense forest cover with a combination of replanting, soil and water conservation measures, and community participation.

A series of slides was then shown that depicted various agroforestry approaches being used in the effort to reforest India. These techniques include planting trees in farm fields, alley cropping, hedgerow plantings, homestead plantings, energy plantations, and the promotion of multipurpose tree species such as *Azadirachta indica*, *Prosopis cineraria*, and *Eucalyptus globulus*.

A barren hillside that was losing 60 to 120 tons of soil per hectare each year was shown eight years after being reforested, at which point erosion had been reduced to less than 5 tons/ha/year.

Finally, slides were shown of a specific example of the effect reforestation has on reducing erosion on steep sites. A barren hillside that was losing 60 to 120 tons of soil per hectare each year before being reforested was shown approximately eight years after trees were planted on it, at which point erosion had been reduced to less than 5 tons/ha/year. Socially oriented tree planting for watershed management and agroforestry of the type described in Dr. Chinnamani's presentation must be pursued if the resource needs of India's rural and urban inhabitants are to be satisfied.

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4. SOME METHODS AND MATERIALS FOR INTEGRATING THE SOCIAL AND BIOPHYSICAL SCIENCES IN FORESTRY CURRICULA

William R. Burch, Jr.[1]

SUMMARY

The participants settled on three broad theoretical approaches as most useful in joining social and biophysical sciences, field and academic workers, farmers and development activities. They also identified how a variety of methodologies seem to compel active participation by all parties in rural development activities. Educational and training materials that encourage interdisciplinary cooperation ranged from products like excerpts in both English and local languages to the use of video tools, internships, and joint work efforts.

INTRODUCTION

The theoretical approaches that seem to offer the most utility in combining human and biophysical dimensions were the first topic of discussion during this workshop session. A very broad interpretation of the categories developed by the participants is given below, rather than concentrating upon a specific theory. At this stage in the development of social forestry, it is more useful to get a sense of the possibilities rather than worry about pride of authorship or choice of theoretical 'schools'. Our ignorance is too great at this point to be able to tell all the weeds from all the flowers. It is better to get a sense of the contour of possibility in which to join ideas and efforts rather than to start establishing 'correctness' of territories.

At this stage in the development of social forestry, it is more useful to get a sense of the possibilities rather than worry about pride of authorship or choice of theoretical 'schools'.

Next, an outline is given of some of the promising areas of methods and research techniques that may encourage social scientists and biophysical scientists to 'appreciate' the importance of one another's variables and techniques of measurement. Again, only broad brush strokes of the most promising areas are provided. Busy researchers and field workers are continually improvising new techniques that help them to work on their daily problems. Methods of research and techniques of measurement are as varied as the problems they address. However, some general types of methods seem to have greater promise for interdisciplinary learning than do some other general groupings.

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The session concluded with a look at some educational and training materials that might encourage interdisciplinary learning. Again the use of educational materials was a broadly interpreted notion that ranged from traditional to innovative.

Universities in the region can serve as cafeteria of ideas, theories, methods, knowledge, and people to provide essential support for these necessary changes, though at present the traditional institutional structures of the university often pose obstacles to the search for innovative solutions.

SUBSTANTIVE FINDINGS

At the mid-point in the workshop, the participants were able to agree on a number of issues, such as the connection between rural poverty and the pressures upon the natural resource base, and the need to work simultaneously on restoring the resource base and improve the living standard of the poorest of the poor. The participants recognized that resolving these twin issues would require significant changes in the professions managing resources and in the training of resource management professionals. It was felt that universities in the region could serve as cafeteria of ideas, theories, methods, knowledge, and people to provide essential support for these necessary changes. Yet, the participants also felt that at present the traditional institutional structures of the university often pose obstacles to the search for innovative solutions.

Therefore, the group's first task was to map a way around traditional university institutions whilst keeping all their resources in balance. The development and application of the three promising theoretical frameworks emphasized at the workshop--the learning process approach, the problem solving approach, and the ecosystems (which includes humans) approach--hold promise for accomplishing this task.

The learning process approach is an inductive strategy for combining the generation of new local organizational and technical arrangements with the reorientation of natural resource bureaucracies.

The learning process approach is an inductive strategy for combining the generation of new local organizational and technical arrangements with the reorientation of natural resource bureaucracies. The researchers are facilitators, teachers, and learners along with the farmers and villagers. The field sites are learning laboratories in which to develop and test how one is going to accomplish the agreed upon tasks. No neat academic line exists between hypotheses and testing, between methods and theory, between researcher and subjects. An interdisciplinary team works in cooperation with the farmers to create a new paradigm of development. This approach assumes that learning is the essential element in all human life, that the learning process covers all domains of existence, and that the best way to understand the process is to work with it. Interestingly, such an approach is part of the understanding found in most biological research--the processes of learning how to adapt to existing and changing conditions. Work in the Philippines, described by De los Reyes (1988), provides one specific exploration of the learning process approach.

The problem solving approach introduced by Salve Borlagdan (summarized in Section 1 of this Report) is an example of a general social science approach to natural resource issues. The forester or

resource manager has a particular problem--public participation, communication of a technology, desire to understand farmer needs, etc.--and the social scientist has a tool kit of theories and methods that can help to resolve such problems. In working together to solve these common problems, the two disciplines learn mutual concepts and approaches.

Rapid Rural Appraisal techniques compel people to work on teams and to learn the variables and concepts of a variety of disciplines.

The ecosystems approach has been developed by a variety of scholars, including Rambo, Romm, Grandstaff, and Conway. Its most active application has been by the researchers of Khon Kaen University's farming systems and social forestry projects. It is more a deductive technique than the learning process approach in that it considers the complex elements that make up the human and non-human ecosystems, examines and predicts the within system and between system interactions, and predicts the likely consequences of these interactions.

A variety of research methods were seen to lend themselves to encouraging cross discipline and field-academic interaction. Rapid Rural Appraisal techniques compel people to work on teams and to learn the variables and concepts of a variety of disciplines. Co-surveys that inventory soils, plants and people are a means to generate measures that permit examination of covariation between the human and non-human ecosystems. This can lead to the development of indicator measures for tracking covariation. Thus, a decline in a biophysical indicator may allow the prediction of a related pattern in the human system. These techniques can be of great value in planning, monitoring, and evaluation of projects.

For many people-resource problems there is an excessive time lag for information to get from the field to the academic setting.

These theories and methods are very much field driven rather than smelling of the academic lamp. Though the participants expressed a great deal of appreciation for scholarly contributions, a real concern was expressed that for many people-resource problems there was an excessive time lag for information to get from the field to the academic setting. The empirical world of action was seen as outrunning the usual scholarly approaches. Consequently, the applied natural resource professions need a different approach than that used by researchers in the basic sciences in support of professional practice. The fact that as yet there are no structures in place to reward field workers who address problems from a multidisciplinary perspective was put forward as one reason why little progress has been made on restructuring our approach to development.

Is the lack of integration of social and biological sciences primarily due to the reward structure and inertia of the management agencies or is it due to the more detached setting of the university with its limited sense of urgency and application.

This raised the question of whether the lack of integration of social and biological sciences is primarily due to the reward structure and inertia of the management agencies or whether it is due to the more detached setting of the university with its limited sense of urgency and application. Certainly, the implications for the field practitioner of this disciplinary schism are great, since one can leave the university ill-prepared for the actual human and ecological interactions necessary to sustain productivity. Even if professionals overcome the limits of

narrow university training, their employing agencies are unlikely to appreciate their broad vision.

Therefore, along with the bureaucratic reorientation needed to fit the changed conditions of social forestry practices, there is the need to speed up the learning process of practitioners so that they can be interdisciplinary in approach before they reach the field. Several teaching strategies were suggested to accomplish this goal.

Professors must have regular updating in field situations and field people must return regularly to university teaching situations.

One strategy is to ensure that the knowledge of people working in the field is captured, systematized, and made part of the academic learning curve. This would both enhance respect for field workers and make a better test of academic theories. In conjunction with this activity, mechanisms must be provided that permit professors to have regular updating in field situations and, of equal importance, that allow field people to return regularly to university teaching situations.

Another strategy is to use regular forms of team teaching, in which students are expected to understand and use the concepts, theories, and methods of the different disciplines. This is a form of integration at the student level rather than the faculty level. The hope is that the students' learning opportunity will eventually draw the faculty into sharing the educational experience.

A suggestion raised during the discussion was to retain the disciplinary base at the undergraduate level with a post-graduate shift to multidisciplinary activity.

Classroom and field teaching are different but necessary complements to one another. For instance, students in Malaysia split their studies between the classroom and the village. A suggestion raised during the discussion was to retain the disciplinary base at the undergraduate level with a post-graduate shift to multidisciplinary activity. Under this plan, the graduate student might spend one year on a farm and do a case study report. The student would then spend three years in the classroom. In the final year the student would have the option of gaining a specialization by undertaking a six month special research effort on a field project.

A related suggestion was for students to develop mapping projects in conjunction with villagers, the desired end result of which might be to increase the yield from village farmland. The field experience gained during mapping projects could be written as case studies to highlight general principles applicable to other similar situations, the learning curve of which could therefore begin at a higher level. The case study report serves as the bridge between field action and academic cumulation of knowledge, and the ability for scholars to develop general principles from this accumulating case study data.

Considerable interest lies in developing tools of the teaching trade that expand the traditional roles of academics in storing and imparting knowledge.

'Learning by Doing' was stressed in the discussion of the techniques for linking disciplines, agencies, action, and scholarship. However, considerable interest lies in developing tools of the teaching trade that expand the traditional roles of academics in storing and imparting knowledge. Much interest exists in finding the funds to expand the

excerpts of studies done in the region and translate them into local languages. These have a convenient format that could provide a base for textbooks that use regional data and examples. This was seen as a creative opportunity for donor groups that wish a large return for a small investment.

Hand held TV cameras and emerging low cost video equipment were seen as learning tools of great value whose utility is seldom perceived and therefore have not been used to their full potential. The 'videoscape' of a community can be a product produced by local people for their own understanding of themselves and their problems and opportunities. As part of the social and biophysical inventory, video tapes of the social and physical landscape done in conjunction with the community and particularly its children can be a story form of inherent interest and the basis for mutual learning by the development team and local people. Further, these 'videoscapes' can serve as cumulating data bases and as visual check points for evaluating the progress of development activities. As video follows the narrative style and format of universal human oral tradition, it can serve as a focal point for a range of disciplines, interests, and educational levels. Again, donor support for such creative activities could have far reaching benefits for expanded communication and real progress in updating the training of rural development workers and in helping villagers to express their knowledge and needs.

Hand held TV cameras and emerging low cost video equipment were seen as learning tools of great value, the utility of which has seldom been perceived and which have therefore not been used to their full potential. 'Videoscapes' can serve as cumulating data bases and as visual check points for evaluating the progress of development activities.

INTERPRETATION AND CONCLUSIONS

Perhaps the ultimate test of curriculum development and integration is the field situation. Throughout the workshop, participants contrasted the demands and realities of field work involving real human and natural resource communities to the usual patterns of academic and agency responses. In field situations, the usual disciplinary boundaries seem irrelevant, which indicates that the abstract theories and ponderous forms of scholarly proof need great modification. The real knowledge of the farmers often exceeds the scientific knowledge developed in the laboratory. In short, the workshop participants were impatient with traditional structures and institutional arrangements and, in their individual, pragmatic ways, are working on solutions rather than constructing elaborate systems to present in academic journals. It was most interesting to see the genuine, disciplined approaches and thought that such reality-testing produced in the participants. They are constructing theories and methods that in the long run will greatly advance their respective disciplines, even though the academic departments that house these disciplines may not recognize it until the transformation has taken place.

Perhaps the ultimate test of curriculum development and integration is the field situation.

The three emergent theoretical perspectives--learning process, problem solving, ecosystems analysis--are bringing biology back into social science and bringing people back into biological thought. Rapid Rural

Workshop participants were impatient with traditional structures and institutional arrangements and, in their individual, pragmatic ways, are working on solutions rather than constructing elaborate systems to present in academic journals.

Appraisal techniques, though viewed as short-term and highly practical rather than 'scientific', are on the cutting edge of advancing the social science enterprise and humanizing biophysical approaches. The alternating of field and academic experience, the development of new teaching tools, institutes, problem areas, interdisciplinary team research and team teaching, and South-South learning connections are all solid indicators of emergent patterns that will make the scholarly landscape greatly different in the coming decades. The world has many lessons to learn. Hopefully some donor agencies will take the initiative to provide the means to cumulate, consolidate, and disseminate this slightly maverick wisdom fermenting just off the edge of the usual academic and agency domains.

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5. RESEARCH OPPORTUNITIES FOR INTEGRATING THE SOCIAL SCIENCES AND FORESTRY

Amulya R. Tuladhar†

SUMMARY

This section deals with research opportunities for integrating the social sciences and forestry. In the plenary and working group sessions, the participants discussed integrative research opportunities, ways of using research to enhance student learning, ways and means to develop and refine theories and methods, and means to enhance the flow of information within and between countries.

INTRODUCTION

The workshop attempted to draw from a wide range of disciplines, experiences, and national perspectives within the region to establish the basis for a common learning curve about the interactions of resources and people. Participants felt that it is possible to identify existing interdisciplinary research needs that can serve as learning opportunities across the region. And further, these research opportunities can generate new knowledge, develop new skills, and instill new attitudes related to the integration of the social sciences in forestry. The workshop focused on research as a means to promote the learning process rather than as an end in itself.

The workshop focused on research as a means to promote the learning process rather than as an end in itself.

SUBSTANTIVE FINDINGS - PLENARY SESSION

The plenary discussion on the development of a research agenda that integrates the social sciences in forestry highlighted several points:

1. Tuladhar emphasized the need for more efficient research techniques, i.e., those that would provide more learning from every unit of effort. He noted that this demands the greatest rigor in the application of existing knowledge and skills to get the highest output possible.

2. The concepts of sustainability, equitability, and productivity can serve as criteria for judging research strategies that integrate the social sciences in forestry.

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3. Veer, referring to Rapid Rural Appraisal experiences in Khon Kaen, suggested the 'Six Helpers' as a checklist for identifying research opportunities that can also serve as learning opportunities for students:

The concepts of sustainability, equitability, and productivity can serve as criteria for judging research strategies that integrate the social sciences in forestry.

- o What? A range of topics for integrative research exist, many of which were identified in earlier sessions of the workshop.
- o Where? Many opportunities exist in on-going development projects, especially pilot projects experimenting with ways of promoting and incorporating people's participation.
- o When? This is a real problem for students whose rigid course schedules often limit the time that they have available for field research.
- o By Whom? Cooperators might include not only university teachers and students in various departments but also field (government) staff, community organizers, villagers, and donor community personnel. (Veer stressed that many donors have a great deal of interest in getting the maximum mileage from small strategic investments in opportunities for learning more through the integration of the social sciences in forestry.)
- o How? This is more difficult to answer. General guidelines include the need to select an existing program and focus more on the learning process of the research rather than on the final product.
- o How much? One of the ways of integrating the social sciences in forestry may be to instill the 'twinning' concept; i.e., twinning universities within the region, twinning institutions in countries, twinning faculties between and within universities. The intent is to take advantage of existing human resources and technical know how, while minimizing costs.

4. Chinnamani noted some constraints and opportunities to integrating the social sciences and forestry research:

   o Examples of Constraints--Researchers often complain about a lack of funding as a constraint, but sometimes the complaining is merely used to hide a lack of creativity. Additionally, professors are sometimes slow in sharing the fruits of their valuable knowledge and experience with their students.

Researchers often complain about a lack of funding as a constraint, but sometimes the complaining is merely used to hide a lack of creativity.

   o Examples of Opportunities--A number of integrated research opportunities exist in silviculture. Illustrative opportunities include looking at:

      - Traditional management practices for trees as single units on farms.

      - Selection, improvement, and management of multipurpose species by farmers.

      - Selection of mixtures of species and components of agroforestry and agrosilvipastural systems, markets for produce, etc.

      - Issues of tribals and resettlement in natural forest management.

      - Demands by urbanites for recreational opportunities in natural forests.

      - Farmer preferences serving as guidelines to tree improvement research through tissue culture. Chinnamani termed this last example of research as Applied/Basic Research, compared to the previous examples which he characterized as Applied/Applied Research.

Students face time limitations that often prevent them from participating in integrated research opportunities.

5. Kartasubrata cited the experiences of the forestry pilot project run by the Ford Foundation in Java since 1984. He mentioned the value of integrated research as a learning process for Bachelors level students, based on his observation of various students who worked for four to six months under the direction of their professors. He noted that during these periods. the students and teachers had time to learn and practice diagnostic research, qualitative study, data collection techniques, and synthesis of information about rural life.

6. Lantican discussed the time limitations students face that often prevent them from participating in integrated research opportunities. He noted that most existing curricula encourage

field research only during the masters and doctoral programs. Time limitations often provide incentives for students to seek other shorter term jobs in nursery work, library work, and rapid rural appraisal studies. Stressing that since many integrated research opportunities, such as farming systems research, economic analysis of plantation rotations, and the like, are longer term activities, Lantican made a strong case for finding ways of promoting more continuity in the research process. This could be done by encouraging longer term studies or incorporating a series of continuous but short-term research projects in which students could participate, thereby building a mutually beneficial learning curve.

The state-of-knowledge for integration of the social sciences in forestry is still in its infancy; therefore, a full-blown curriculum that integrates the social sciences may not be the need of the hour.

7. Lantican also noted some of the problems in launching a full-blown teaching or research program in 'social forestry'. He suggested that the time for doing so may not be right for two reasons. First, a substantial body of knowledge has to be available to sustain and propel an educational program, and he questioned whether such a body of knowledge currently exists. Second, at the present time, few students (at UPLB, at least) seem to be interested in the approximately 20 course offerings that are grouped under 'social forestry'.

8. Wirawan outlined a similar theme. He said that the state-of-knowledge for integration of the social sciences in forestry is still in its infancy; therefore, a full-blown curriculum that integrates the social sciences may not be the need of the hour.

The mandates of institutions in many countries limit the opportunities for integration of the social sciences with forestry.

9. Awang pointed out that the mandates of institutions in many countries limit the opportunities for integration of the social sciences with forestry. Few developing countries allocate scarce resources (e.g., funds, personnel) to academic institutions. Governments generally classify these resources as 'development' rather than 'income-generating' expenses (e.g., marketing logs, agricultural products, and industrial goods and services). Therefore, rigid mandates remind institutions of their cost to the nation and steer most of them away from basic research, long-term research, and experimentation toward activities that reap benefits over the short-term. For example Nepal, one of the poorest countries in the region, only has one forestry training center, the Institute of Forestry. The mandate of the Institute of Forestry is first to produce a large number of technicians/rangers and then to ensure that the education of forestry professionals is made more relevant to the needs of Nepal. University and government policy makers generally regard research as a distraction from teaching. The basic point stressed here is that the rigidity of institutional mandates often limits opportunities for the integration of the social sciences in forestry.

SUBSTANTIVE FINDINGS -- WORKING GROUP SESSION

After the plenary, the participants divided into working groups to have more detailed discussions about research opportunities that could enhance education and training, generate knowledge to fill gaps, and promote greater integration of the social sciences and forestry. Using Worksheet 3 as a guide (Appendix 3), the working groups discussed theoretical perspectives, research methodologies, and the transfer of information and knowledge through extension techniques.

The need to keep the cycle of information and learning flowing by ensuring that learning from field practice, case studies, etc., flow back into class lectures was especially emphasized.

Working group I identified five principal conceptual/theoretical perspectives that students need in order to understand integrated research. These include community, organization, learning process, property, and development (especially productivity, sustainability, and equitability).

The group also identified means that can be used to enhance teaching and learning in university forestry curricula. These include lectures, field experiences, case studies, and discussion of competing paradigms of development by well-known Asian scholars. The need to keep the cycle of information and learning flowing by ensuring that learning from field practice, case studies, and the like flow back into class lectures was especially emphasized.

Working group II concentrated on the general opportunities available for integrating the social sciences in university forestry research and training, and in government projects, recognizing the time limitations of existing student schedules and the costs of staying in the field for research activities. These opportunities include:

- Team research involving faculty and students from various disciplines.
- Independent student research assistantship programs, which encourage students to tap multiple disciplines for their research strategies, methods, etc.
- Selection of integrated research agendas by students for course projects.
- Application of existing or proposed academic requirements that promote integrated research or project activities (e.g., the Philippines).
- Integration of social sciences in more traditional forestry courses (e.g., Visayas State College of Agriculture in the Philippines, where the ecology course includes elements of social science and rural development, and is seen as a 'back door approach' to integration).

- Link university research efforts with non-governmental organizations (NGOs) and government forestry and social forestry projects.

- Use of traditional teaching tools such as seminars, workshops, class reports, and reading assignments. These should be based on field learning and the learning from these opportunities should quickly be recycled back to the field through other mechanisms.

Working group III identified a number of research applications that may be amenable to the integration of forestry and social sciences. These include:

- Incorporation of integrated theory and knowledge in all phases of the planning cycle (i.e., project identification, design, implementation, monitoring, and evaluation),

- Use of existing methods, such as the International Council for Research on Agroforestry's Diagnosis and Design procedures (D&D) and project Implementor Beneficiary Interaction studies, and

- Linking students with project implementors in order to provide valuable learning experiences.

The group also identified some promising means to ensure that research enhances teaching and learning. Some of these include:

- Tours (e.g., project cycle studies, case studies, Rapid Rural Appraisal [RRA], etc.),

- Project work (i.e., for more in-depth experience to develop knowledge and skills in integrative research and thinking, and to provide better links between academic and implementing institutions),

- Theses and dissertations that integrate concepts and experiences, and

- Research projects that build upon the traditional role of universities such that there is little need to convince governments to reach out, since their own personnel may not have the time, inclination, ability, or facilities to undertake such research efforts.

The group also identified opportunities to promote the private sector. They noted that private sector institutions (e.g., private consultants, NGOs, social service organizations) vary in their degrees of rigidity, prejudices, rules, and mandates for experimentation and research, though they are often more flexible and freer from notions that prevent the integration of various disciplines than are public sector institutions. The primary problem with experience and learning generated by private sector institutions is that their findings are not easily disseminated, and therefore are relatively inaccessible to the wider academic and professional audience that lies beyond those most directly involved in their programs.

Private sector institutions vary in their degrees of rigidity, prejudices, rules, and mandates for experimentation and research, though they are often more flexible and freer from notions that prevent the integration of various disciplines than are public sector institutions.

Working group III discussed in some depth the issue of accessing and disseminating existing and new knowledge. Members suggested that catalytic funding from the donor community should be tapped by a lead forestry faculty or by a new social forestry organization or association (perhaps somewhat like the Overseas Development Institute's Social Forestry Network). The purposes of such an effort would be to provide quicker and easier access at the country and regional level, serve as the organizer of periodic workshops, seminars, and meetings for members to learn from each other while fostering peer review to enhance the quality of such learning experiences, and facilitate the regular update of a roster of experts, scholars, and field practitioners to make it easier to tap the experiences of those in the region who are working on the integration of social sciences and forestry.

INTERPRETATION AND CONCLUSIONS

Several themes emerged from the discussion on research opportunities to integrate the social sciences and forestry and to enhance teaching:

- The participants believed strongly that these integrative research efforts are both needed and possible.

- The participants saw a need to take advantage of integrative research opportunities which promote closer linkages between and among students, teachers (from various disciplines), and project and program implementors (government, NGO, donor).

- The participants saw the possibility of forestry faculty in Asian universities taking the lead in this integration process in field study, in existing and more traditional courses (e.g., silviculture, physiology, genetics, ecology), and in the development of new or refined theories and methods. This would involve, among other things:

- Increasing the time and continuity of short-term student field research projects;

- Generating better and more useful conceptual frameworks to link what are sometimes disparate, but often fascinating, mixes of experiences and impressions; and

- Developing and refining appropriate field methods such as D&D, RRA, Geographic Information Systems, etc.

While the state-of-the-art is certainly limited, the body of social forestry knowledge is growing rapidly, especially in Asia.

o The participants felt there is a critical need to accelerate the current learning curve by increasing the dissemination of and access to existing and new knowledge.

o The participants emphasized the potential role of innovative donors and private sector groups in fostering these learning and dissemination processes with a minimum of rigidity.

o The participants wondered whether presently available knowledge and experience are adequate to sustain a full-blown curriculum or discipline of 'social forestry'. This seemed particularly true of theory and concepts that could be applied to such a course of study. While the state-of-the-art is certainly limited, the body of social forestry knowledge is growing rapidly, especially in Asia.

o The participants expressed optimism that human creativity would help overcome current obstacles.

6. CURRICULUM DESIGN

Srinivasan Chinnamani†

SUMMARY

The study of social sciences in forestry has not kept pace with the need for the application of social science in the profession of forestry itself. In part, this is due to the course content that faculty are prepared or willing to teach. In part, it is due to how field opportunities--including field research efforts; pilot projects; social, community, farm and other kinds of forestry programs--are used by university programs to teach students. All of these can become learning opportunities and can provide input both in the design of courses and in the selection of specific courses in forestry curricula which will better prepare foresters for their work in the field. That this is not being accomplished now is in part due to the fact that most academic forestry programs do not account for present economic, demographic, political, social, or government policy issues. It is also due to the rigid attitudes that prevail in most universities about curricular change, a process which may take from two to five years to be accomplished.

Most academic forestry programs do not account for present economic, demographic, political, social, or government policy issues.

Oftentimes, it is faster to change course content than a whole curriculum. But, major change is an important milestone in the evolution of any curriculum. Changes that integrate the social sciences in forestry curriculum to better prepare graduates to face complex situations in the field and in the world in general, will make a curriculum true to the changing needs of the time and the region.

This has occurred in other fields, such as agriculture and engineering, and the integration of different disciplines into forestry curricula may follow the same path. Eventually, it can be done at all levels of forestry education--bachelors, masters, and doctoral.

The social science component in forestry curricula must be based on the interests and needs in each country. While the workshop considered various options, broad consensus was achieved only on the need for change, not on the specific kinds of change. Some of the generic suggestions offered for change were that social science should be included more in forestry curriculum and that there should be an option of either having specific social science courses or including social science components in traditional forestry courses. Participants also suggested that in-service training for field practitioners, faculty training,

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short courses, workshops, seminars, and exchange programs could fill certain needs over the short term.

INTRODUCTION

Oftentimes, it is faster to change course content than a whole curriculum.

The purpose of the plenary and working group sessions on Curriculum Development was to discuss the curriculum design process that integrates the social sciences in forestry curricula and to discuss some aspects of illustrative curricula that address key needs in educating forestry practitioners.

Workshop participants generally agreed that integration of the social sciences and forestry has attained paramount importance because of changing values; the rise of new concepts in forestry, environmental studies, ecology, and the social sciences themselves; and changing government policies which are providing people with more access to forests and trees through agroforestry, social forestry and related programs, and which are trying to reduce poverty and provide employment to the rural poor in areas adjoining forests.

These changes affect the way that public and private bureaucracies do their business and also affect the way other institutions do business, especially those that prepare professionals to fill positions in those bureaucracies. Social science can help prepare these professionals for the new and complex challenges of dealing with people. Social science and forestry are separate threads of knowledge that have great importance for humans. An appropriate blend of amounts and kinds of these bases of knowledge must be woven together to produce a fabric with which to support efforts to bring society and forests into a new equilibrium.

To do this, university curricula must be changed. This may mean that social sciences such as anthropology, political science, economics, law, and related subjects may have to be more integrated into forestry programs. It may also mean that forestry should be taught to social scientists, even those who may not like to be near the jungle. The introduction of more credits and field work in bachelors degree programs is one example of an approach toward addressing this need.

SUBSTANTIVE FINDINGS--WORKING GROUP SESSION

The participants divided into their working groups to discuss various aspects of curriculum design and to share some ideas on illustrative models that address the critical educational needs of practicing foresters.

Working group I laid great stress on the basic university structure, government policy, rigidity of the curriculum development process, conservative faculty, lack of funds, and unequal distribution of funds.

The group felt that all of these contributed to the slowness of changing curricula. Group members also commented on the donor community's lack of awareness about how these multiple factors affect curriculum change and its lack of knowledge about courses that would bring about the integration of the social sciences into forestry programs.

While the workshop considered various options, broad consensus was achieved only on the need for change, not on the specific kinds of change.

The group felt that positive action could remedy some of the problems. Members recommended that universities encourage models for curriculum development that create better, more integrated learning opportunities, and that research programs, institutions, and countries should work to increase and promote a shared learning curve across the region.

Group members described aspects of various existing curricula across the region:

- In India and the Philippines, electives in social forestry, agroforestry, watershed management, and other forestry subjects are offered in the bachelors program, while specialization is done at the masters level.
- In Malaysia, Thailand, and Indonesia, majors in wood industry, forest management, forest resources, forest products, social forestry, and wood technology are taught.
- In Indonesia, the basic core forestry subjects are compulsory. One participant proposed the creation of a social science forestry degree with 60% social science and 40% bioscience to be awarded by a faculty of social sciences.
- Masters degrees with specialization in forestry exist across the region, including those which focus on agroforestry, social forestry, and natural resource development.
- Some universities are stressing more community and social development and resource development.
- Some universities in India provide a Ph.D. degree in agroforestry.
- In general social science courses are at a minimum in bachelors level forestry programs.
- Forestry courses are totally absent from social science programs.

Working group II felt that great problems presently exist in university forestry programs. Facilities are inadequate. It is difficult to phase out courses. Students pay little attention to the social sciences that may be

offered. Emphasis is placed on industrial forestry at a time when more attention should be focused on studying the social needs for goods, services, and sources of income, and public use of forest lands as parks and recreation areas.

An appropriate blend of amounts and kinds of knowledge bases must be woven together to produce a fabric with which to support efforts to bring society and forests into new equilibrium.

While discussing the various academic programs across the region, group members noted that:

- At the bachelors level, in general, approximately 1/3 of the core subjects were in mathematics, language, literature, culture, etc., while 2/3 were in major subjects or electives. In these general programs, universities give very little emphasis to the social sciences because of the generally rigid curriculum requirements of the institutions.

- In the Philippines, out of the 153 units, 42 are general foundation courses and 111 credits are forestry core courses, of which only nine are in social forestry and nine are for electives.

- The lack of strong libraries and research facilities in institutions across the region results in a lack of information and materials for teaching.

- Employment opportunities for graduates generally shape the kinds of courses that most students will take. Where no incentives exist to lure students into social forestry programs, few incentives exist for them to study the social sciences in the universities.

- New tools, such as videos, can be useful for teaching about social and community forestry.

Working group III reviewed the new functions and roles of foresters and social scientists. Members made the following observations:

- A new vision of the world and both the forestry and social science professions is required. At the same time, it is essential to identify the needs--the knowledge, skills, and attitudes--to achieve this new vision. Major sources to tap are field practitioners and alumni; major means to tap these are through workshops and through evaluations of field experience.

- It is essential to review existing curricula and to identify potential gaps, such as social sciences in forestry education.

- Revision of whole curricula may be required, including modification of content, changes in schedules, reallocation of resources, finding ways to link field practitioners with students, and obtaining much needed support from universities for faculty development.

- Development of a new course at the bachelors level that combines social sciences and forestry, and results in a degree in 'social science forestry'.

- The integration of social sciences in forestry is intended to create a new order of professionals. This group would be differentiated from pure industrial foresters. For example, the foresters trained more in the social sciences would have greater communications skills and would have other skills to work with people-oriented forestry and rural development programs. The course of study would include more information on social structures of households and communities, power relationships, decision-making processes, resource-human interactions, formal and informal organizations, and management skills, in addition to resource inventory skills, ecosystem studies, system analysis, and operations research.

A new vision of the world and both the forestry and social science professions is required. At the same time, it is essential to identify the needs--the knowledge, skills, and attitudes--to achieve this new vision.

SUBSTANTIVE FINDINGS--PLENARY SESSION

A plenary followed the working group meetings. Several assumptions seemed to guide the discussion:

- The creation of a new bachelor's level forestry specialization with more balanced input from the social sciences (up to 50%) would create a new order of forestry professionals for more people-oriented kinds of forest practice.

- Universities and governments can and will become more flexible in incorporating change into traditionally rigid curriculum development processes.

- Employment for these newly trained foresters exists or will exist.

- More funds from government, universities, and donor agencies could help affect curricular change.

Collectively, the participants suggested a range of ways to make changes and strengthen existing curricula:

The integration of social sciences in forestry is intended to create a new order of professionals. This group would be differentiated from pure industrial foresters.

- Drop one of the more traditional courses and add a social science course in its place.
- Incorporate more social science components in existing courses such as ecology.
- Retain the title of more traditional courses under existing university curricula, but change the syllabi and course content to teach more modern concepts of social sciences in forestry.
- Encourage professors to teach social sciences.
- Disseminate more publications, research results, examples of model curricula, etc.
- Develop a network among those teaching social sciences in forestry and exchange information between individuals, institutions, and countries.
- Hold seminars, workshops, etc.
- Exchange of professors (however, some expressed concern about this option because of the cost for travel, difficulties in obtaining permission and leave, etc.).

No consensus existed among the group about a specific syllabus, or course content, or even general parameters for forestry education across the region. Group members generally agreed on the possibility of innovation in forestry programs, but cautioned against adding social science courses to existing full courses of study that often overburden students. Group members also observed that while they, as foresters and social scientists, may view curricular change sympathetically, more traditional foresters and social scientists may not, and would resist it very strongly.

INTERPRETATION AND CONCLUSIONS

Foresters and social scientists must develop new curricula that better prepare graduates to creatively face field situations and that also keep pace with the changing demands of society. Many existing curricula in Asia reflect western viewpoints, models of forestry curricula, or curricula that first addressed production forestry and more recently recreation forestry. Besides production and recreation, the demands of Asian society also call for forestry practices that address the needs of rural

peoples for tree crops, grasses, single trees, or various combinations of trees with other components of the farming system. These demands require new education in which social science cannot be overemphasized. Curricula should integrate the social sciences with technical forestry courses to produce a new 'social scientist forester' who can efficiently operate in the complex socio-biophysical context of a forest and its surrounding society.

Many existing curricula in Asia reflect western viewpoints. Besides production and recreation, the demands of Asian society also call for forestry practices that address the needs of rural peoples for tree crops, grasses, single trees, or various combinations of trees with other components of the farming system. These demands require new education in which social science cannot be overemphasized.

Forestry education has changed greatly through time in Asia. About 2000 to 2500 years ago, forestry was taught as a social science in India in its ashrams--places of religious learning, spiritualism, yoga, medicine, sports, and peace and eternal tranquility. Yet, during the last 100 years, forestry education has been production and protection-oriented all over Asia to ensure that large, commercially valuable timber trees--rosewood, teak, and others--were available for harvests that seldom directly benefitted rural society and the rural masses. Social science in the more recent curricula has basically been limited to courses in forest economics and forest land use policy.

The time for curriculum change has come once again. The importance of trees and forests has been recognized to be of paramount importance to society to meet its needs for fuel, fodder, small timber, fiber, and other forest products, and to provide services such as mitigating the effects of floods like those that occurred in Thailand during the course of the Workshop. Forestry curricula must therefore integrate the social sciences.

Several options exist to achieve this goal, including but not limited to the following:

- Initiate change in university structures to reduce rigidity and to encourage more flexibility among more conservative faculty in order to change curricula. This must be done, but it must be recognized that there will be a time lag in achieving it.

- Identify and review the knowledge, skills, attitudes, and new functions of foresters and social scientists in the changing situation relative to the range of forest practices--industrial forestry, recreation, environmental management, public use of forests, rural development activities, subsistence forestry, community and village development, and tribal welfare.

New curricula should be multifaceted, with new approaches and linkages to other parts of the university, to government policies, to job opportunities, to rural development learning, to the experiences of people who work in the field.

- Develop educational programs that help field practitioners meet government objectives to work with the rural poor. These might include:

  - Drop existing unproductive courses and include appropriate social science theory and methods courses.

  - Under the broad heading of existing forestry courses, such as ecology, environment, etc., change the course content to impart the social sciences.

  - Teach social sciences under the broad umbrella of forestry with a greater stress on social sciences at all levels.

  - Reduce basic core forestry subjects and increase social science subjects to broaden the education of all forestry students.

  - Introduce electives and majors of social science in forestry curricula.

  - Evaluate field experiences and pose field problems directly to social scientists and foresters, and incorporate these new learning opportunities into existing curricula.

  - Change masters degree program requirements and thesis work in social sciences related to forestry and rural development projects. Ensure that the knowledge from theses is fed back into the curriculum development process for improved course content.

- Use appropriate models for creating better educational opportunities. These models should promote the shared learning curve between research programs, field forestry projects, national educational institutions, and countries of the Asia region and the world.

- Promote improved relationships between students and teachers, local people and forestry professionals, national and international institutions, etc.

- Provide continuity of funding from both governments and donors for institutional development that integrates the social sciences in forestry curricula. Also, provide a list of donors inside and outside of each country. Help identify sources of funds for development of more integrated curricula. Government policies should be changed to provide incentives (e.g., funds, support) for universities to include new courses and concepts.

- Support networks, travel funds, translation of excerpts of important scientific works, seminars, workshops, publications, etc.

- Provide wider job opportunities to students who complete the requirements of this newly integrated curriculum.

We are bound by people's ever-growing demands, and we must prepare our professionals to better meet these demands. The success of a curriculum leads to the success of professionals, which in turn leads to greater success for society.

New curricula should be multifaceted, with new approaches and linkages to other parts of the university, to government policies, to job opportunities, to rural development learning, to the experiences of people who work in the field, and so forth. New curricula need to be dynamic. They should stress the achievement of wise use of existing forest, tree, and related natural resources. They should also suggest better ways to establish and maintain public respect for forest policy, and to obtain people's participation in resource management.

Curricula should be designed in a two way process of professional learning and curriculum design within a university, as suggested by Figures 1 and 2. The steps in adopting new curricula will very likely follow the steps found in Figure 3. Efforts should be made to facilitate the progress of each of these steps. Questions about whether the new courses or curricula are really needed, good, and appropriate, or in conflict with existing courses, must be addressed.

In conclusion, the prime importance of integrating the social sciences in forestry curricula must be reemphasized. We are bound by people's ever-growing demands, and we must prepare our professionals to better meet these demands. This can most effectively be achieved by creating a new order of foresters with strong knowledge of social sciences and/or by improving the knowledge of forestry for rural development specialists and social scientists. The success of a curriculum leads to the success of professionals, which in turn leads to greater success for society.

Figure 1

Octagonal Linkage of Social Science Forestry Curricula

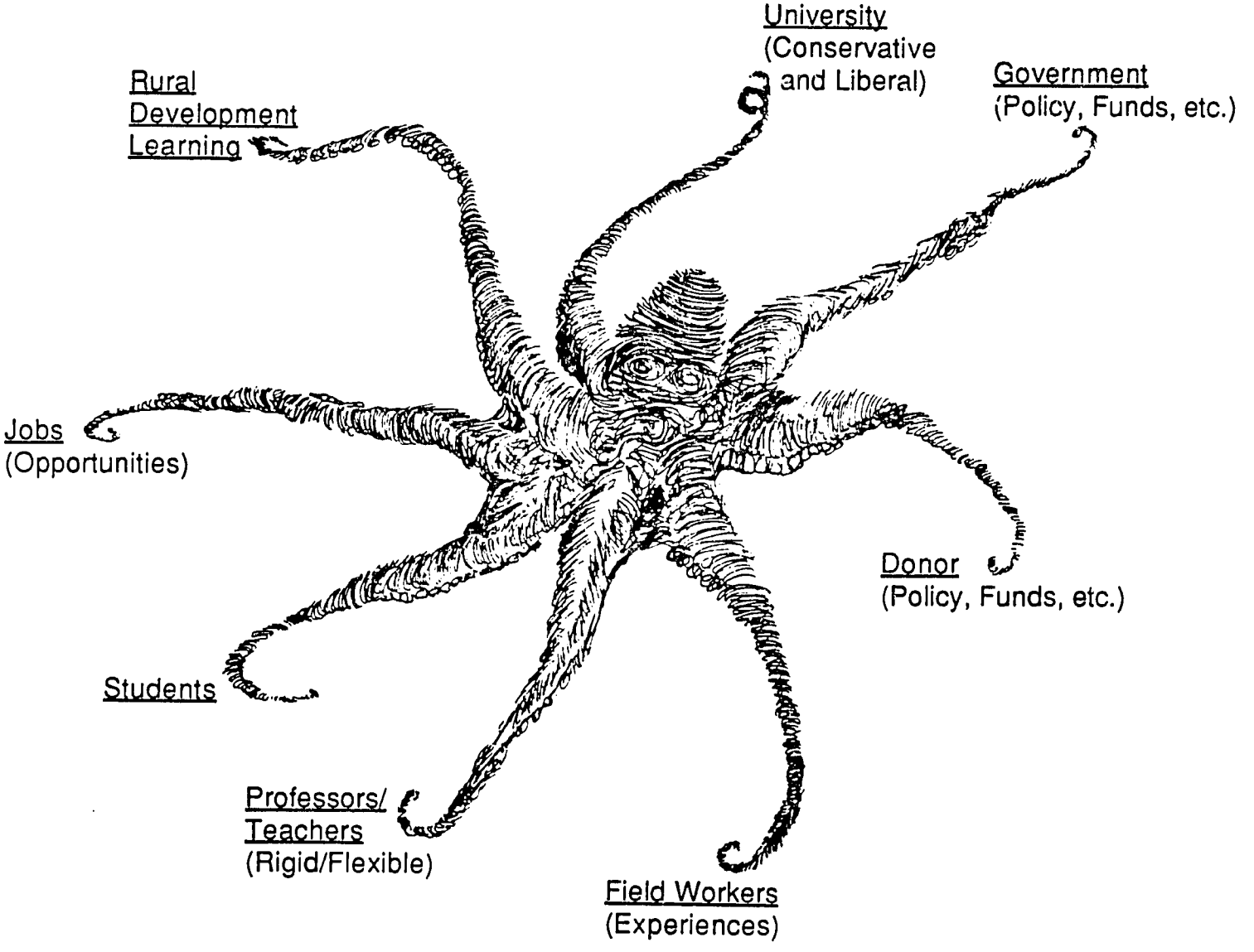


Figure 2

Two-way Process of Professional Learning and University Curriculum Development

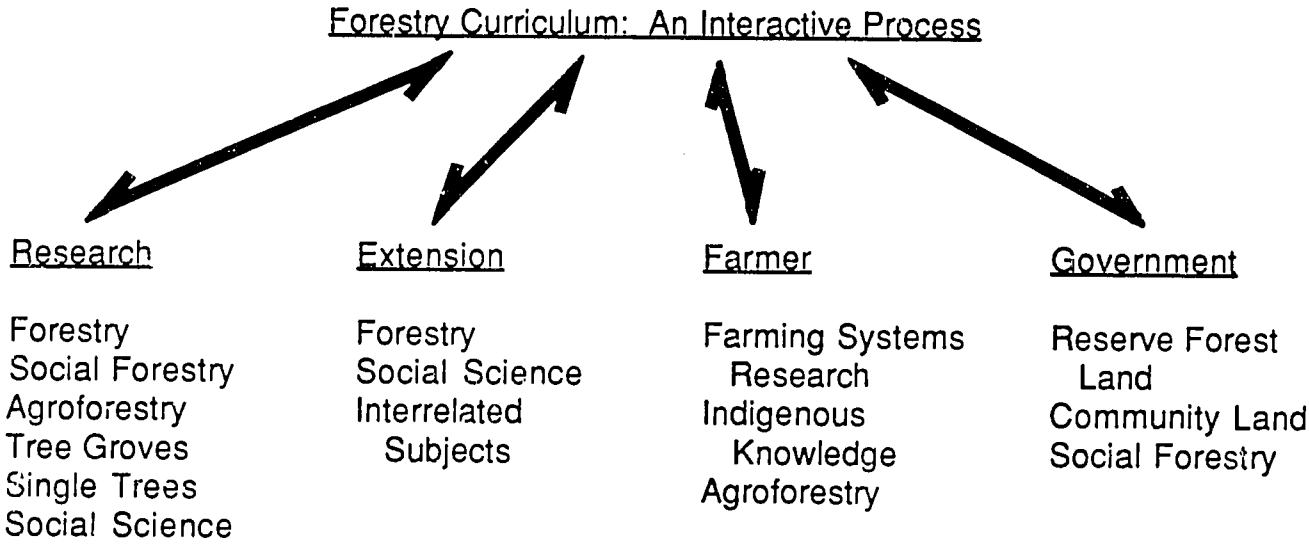
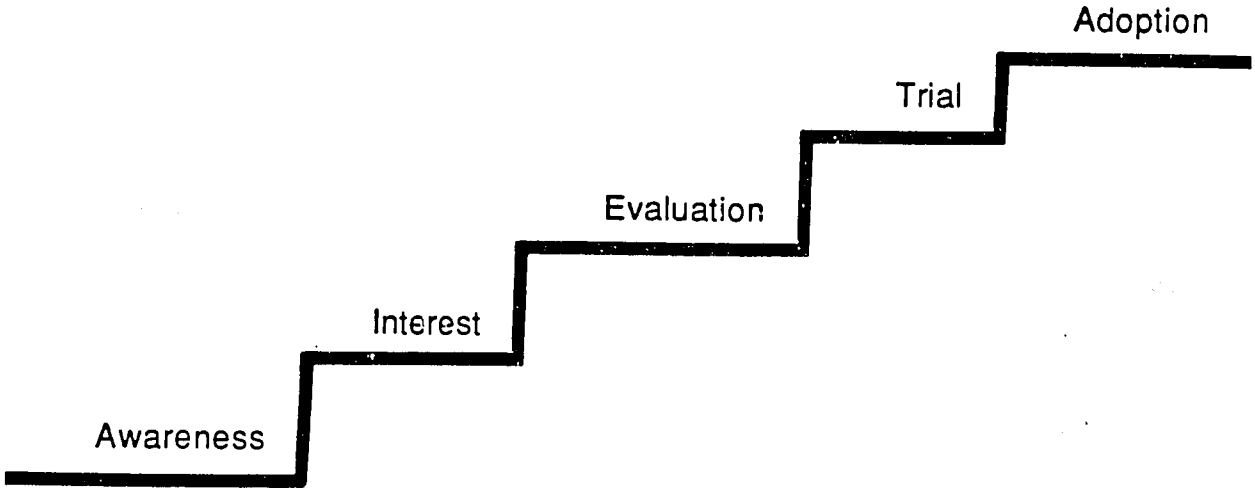


Figure 3

Stages of Curriculum Adoption



7. CRITICAL ORGANIZATIONAL ISSUES

Niwat Ruangpanit[†]

SUMMARY

This report reviews some of the critical organizational issues identified during the workshop. These issues need to be considered in order to improve the integration of the social sciences into forestry curricula. The workshop's findings are particularly relevant to the Asia-Pacific region where many forestry institutions are adjusting curricula to:

1. Give more emphasis to the role of forestry as an integral component of rural development,
2. Contribute to increases in agricultural productivity,
3. Improve rural incomes, and
4. Enhance the quality of life.

INTRODUCTION

Many forestry institutions are adjusting curricula to 1) give more emphasis to the role of forestry as an integral component of rural development, 2) contribute to increases in agricultural productivity, 3) improve rural incomes, and 4) enhance the quality of life.

The set of critical organizational issues discussed in the plenary session served as an introduction to the detail-oriented working groupmeetings that followed. The objectives of the plenary and working group sessions were to identify issues related to institutional and organizational opportunities, constraints, sustainability, continuity, and resource distribution for forestry education. As with the previous sessions, the primary focus was on the integration of social sciences in forestry curricula.

The three working groups briefly outlined the major topics that might address critical organizational issues. These include:

- Opportunities and constraints to integration of the social sciences,
- Sustainability of any new educational activities (courses, curricula, etc.) that integrate the social sciences in forestry curricula,

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- The quality of educational programs that deal with this integration,

- Maintaining the continuity of educational programs by improving the base and relevance of knowledge presented to students, providing career incentives to faculties for teaching interdisciplinary concepts and approaches, giving accreditation and resources to institutions that provide social sciences and social forestry education programs.

The objectives of these sessions were to identify issues related to institutional and organizational opportunities, constraints, sustainability, continuity, and resource distribution for forestry education.

SUBSTANTIVE FINDINGS--WORKING GROUP SESSION

The organizational issues discussed in each working group (using Worksheet 4 in Appendix 3 as a guide) and the ways the proposed opportunities could be enhanced and constraints removed in order to improve the integration of the social sciences in forestry curricula are summarized below.

Working group I made the following observations:

- The organizational structures of many universities may often be part of the problem rather than the solution. University structures may lead to rigidity of curriculum structure and content, lack of incentives for foresters and social scientists to introduce new courses and curricula, and inequities in the distribution of resources.

- Government policy for dealing with the integration of forestry and the social sciences in education, research, and training still does not provide a clear direction in most countries.

The organizational structures of many universities may often be part of the problem rather than the solution.

- Donor community policy seems to favor short-term projects rather than long-term programs involving curriculum development, development and application of innovative approaches for integrating knowledge, funding for interdisciplinary research, etc.

- Few appropriate models for development exist, and those that do often lack holistic frameworks. Hence, their usefulness in curriculum revision is limited.

Working group II made the following observations:

- There is a need for sustained effort and continuity of inputs, such as in the development of new knowledge, which would enhance the level and quality of the educational experience.

Donor community policy seems to favor short-term projects rather than long-term programs involving curriculum development, development and application of innovative approaches for integrating knowledge, funding for interdisciplinary research, etc.

- A critical need exists for innovation and organizational flexibility in order to achieve the integration of disciplines, to adapt curricula to changing demands from outside the universities, and to maintain the quality of the education offered.

- Faculty development should be emphasized as a step necessary to further the integration of the social sciences in forestry curricula and to maintain qualified and productive staff.

Working group III made the following observations:

- In many countries there are few direct links between universities and the development organizations that are often the prime users of the knowledge and human resources being produced in the universities.

In many countries there are few direct links between universities and the development organizations that are often the prime users of the knowledge and human resources being produced in the universities. Flexible bridging mechanisms between universities and implementing agencies that carry out extension work need to be developed.

- Many academicians are detached from applied field activities. This reduces their ability to provide their students with a sense of field reality.

- Organizational incentives which would encourage faculty to be responsive to new social forestry issues are lacking.

- Academicians willing to participate directly in the forestry programs of government and private organizations must be actively recruited.

- We need to transcend the politics of empire building within university systems that discourage the linking of people, funds, students, etc.

- Flexible bridging mechanisms between universities and implementing agencies that carry out extension work need to be developed. The knowledge being accumulated and the techniques being developed and refined in the universities are currently not used as widely as they should be in the field.

Based on the issues raised, the three working groups made the following recommendations of the means to enhance opportunities and overcome obstacles. While these were discussed in greater detail in a later session that identified recommendations on the broad range of issues raised at the workshop, the following summary provides some of the groups' preliminary thinking.

Universities and government forestry departments should encourage the development of library facilities, provide incentives to publish teaching texts and articles jointly authored by social scientists and foresters, and encourage interdisciplinary public service and extension works.

Working group I recommended that:

- Universities should strive to modernize their traditional time-consuming bureaucratic processes of curriculum development.
- Funding for joint research projects and programs between universities and implementing agencies should be strongly promoted and strengthened.
- Forestry institutions need to work with social scientists and forestry departments to plan social science courses that serve the needs of new foresters.
- The donor community needs to provide continued funding for university development, collaborative research, professional development, student activities, and other special projects and programs.
- The model(s) for development should observe a holistic approach.

Working group II recommended that universities and government forestry departments should:

- Work together to develop, refine, and evaluate national policy.
- Reorganize to increase innovation in existing structures using existing resources within forestry school faculties, among other faculties in the university, and between universities when appropriate and feasible.
- Create linkages between academic institutions and government field implementing agencies, non-governmental organizations, and related groups, by sharing resources--including both staff and students--in teaching, research, and rural development.
- Employ field staff to work with academic staff in writing up lessons learned. At the same time, field workers should be trained in writing technical reports and manuals.

- Develop faculty 'openness' by introducing team teaching in appropriate courses, joint applied interdisciplinary research, project evaluations, and consultancies.

- Explore the possibility of faculty exchanges within and between countries in the region and globally.

Foresters as well as social scientists lack incentives and flexibility to introduce new courses or curricula.

- Encourage the development of library facilities and appropriate social science holdings, provide incentives to publish teaching texts and articles jointly authored by social scientists and foresters in professional journals, and encourage interdisciplinary public service and extension works.

- Establish 'alternative' professional associations and informal networks that link scientists from various disciplines.

Working group III recognized that:

- Curriculum development exercises should be routinized so they involve not only decision makers and faculty, but other affected groups as well.

- Scientists and practitioners from varied disciplines should be involved in project planning, implementation, and action in research.

- The language used to describe and discuss sensitive issues must be well structured and carefully worded.

- More opportunities for publication, and support for the broader dissemination of reports that combine social and biophysical issues, should be provided.

- Foresters should be exposed to social sciences as well as to multidisciplinary research skills.

- All parties in curriculum development and evaluation efforts should strive to reduce time-consuming bureaucratic processes.

- Both university and implementing agencies should collaborate with rural organizations to carry out forestry extension works.

The issues discussed in the working group session, along with the recommendations generated as to the means of addressing these issues, are synthesized and summarized below:

Issue 1: Government Policy Clear direction is needed in government policy on the integration of social science in forestry curricula, research, and training.

Recommendation: Funding for joint research projects and programs in social forestry between academic institutions and implementing agencies should be strongly promoted and strengthened.

Institutional development in university forestry programs is usually a long-term process and requires a long-term commitment from the donor community.

Issue 2: University Structure and Faculty Development The structure of the university itself causes the rigidity of curriculum. This is due to the inefficient use of time in the curriculum development process and the inequitable distribution of resources for faculty development.

Recommendation: Forestry institutions need to cooperate with forestry departments and social scientists to plan courses in social forestry to serve the needs of new foresters.

Issue 3: Lack of Incentives and Flexibility Foresters as well as social scientists lack incentives and flexibility to introduce new courses or curricula. There is a lack of organizational incentives to respond to new social forestry issues.

Recommendation: Universities should strive to modernize the traditionally time-consuming processes of curriculum development. New linkages between academic institutions and government implementing agencies and non-governmental organizations should be created by sharing resources, including both staff and students, in teaching, research and development.

Issue 4: Donor Community Funding Policy The donor community prefers to fund short-term projects rather than long-term programs. Since institutional development in university forestry programs is usually a long-term process, it requires a long-term commitment.

Recommendation: The donor community needs to provide continued funding for university development and collaborative research in locally appropriate social forestry techniques.

Most forestry curricula today tend to isolate foresters from people instead of integrating both into the development process.

Issue 5: Extension Networks Flexible bridging mechanisms and implementing organizations for carrying out extension works do not exist in many countries.

Recommendation: Create and/or encourage informal networks, exchanges of faculty and joint publications within and between countries. Both university and implementing agencies should work with rural organizations to carry out forestry extension works.

INTERPRETATION AND CONCLUSIONS

Most forestry curricula today tend to isolate foresters from people instead of integrating both into the development process. Forestry curricula, therefore, should be adapted to include social sciences such as rural sociology, cultural anthropology, and the behavioral sciences in general. Without a deeper understanding of human behavior in the context of rural development, professional foresters will not be able to design and implement forestry programs that gain the support and meet the needs of rural populations in Asia.

Currently, the major focus of social forestry programs is on people's participation--how to organize it, how to remove constraints, how to ensure that the needs and aspirations of participants are fulfilled. Other issues having social implications need to be addressed as well, including but not limited to the following categories and examples:

1. Political Commitment and Policy Issues

   - o Identify and analyze policy issues affecting the implementation of a program or project. The intent is to find ways to minimize constraints and convert them into opportunities.

   - o Identify and address some of the major policy issues related to social forestry; e.g., land tenure, distribution of benefits, choice of land use systems, and subsidies.

   - o Support appropriate legislation that reflects government commitment to resolving land ownership and tenure issues.

- o Ensure that forest and rural development takes place with the full involvement and participation of rural people, by promoting bottom-up rather than top-down approaches.

2. Issues Related to Local Institutions

Local development involves more than existing institutions. In some cases, it requires the formation of appropriate new local institutions, such as forest or farmers associations, cooperatives, village councils, and NGOs.

- o Local development involves more than existing institutions. In some cases, particularly with social forestry activities, local development requires the formation of appropriate new local institutions, such as forest or farmer associations, cooperatives, village councils, and NGOs.

- o Rural community development programs constitute an enormous institutional challenge which depends not only on available resources and technologies, but also on the attitudes of agency personnel and on existing bureaucratic processes which help or hinder the programs at the local level.

3. Assessment of Rural Needs

Foresters must be trained to use social science methods that exist or are being developed, adapted, refined, and tested to identify, map, and assess:

- o Community needs,

- o Biophysical resources, and

- o Socioeconomic characteristics that are related to and affect resource use.

4. Incentives

Studies of the most appropriate incentives must be undertaken to provide more information to foresters as they modify existing activities or develop new ones that supplement a community's efforts to efficiently manage its resources. The range of incentives that should be addressed includes:

- o Credits,

- o Subsidies and grants,

- o Marketing, cooperative programs, etc.

5. Extension Network

For foresters to assume a new role in rural development activities, they must be equipped with improved communications techniques, human relations skills, information/extension approaches, and related skills. The objectives for obtaining these skills include:

There is enormous scope for interdisciplinary research in social forestry programs, which are always relating and adapting themselves to differing needs, perceptions, and situations.

- o Learning to listen and to be the conduit of information about innovations for farmers and about farmer problems to researchers, and
- o Learning to identify and assess local needs, aspirations, and constraints through dialogue with villagers.

6. Research and Support for Development of Technology

There is enormous scope for interdisciplinary research in social forestry programs, which are always relating and adapting themselves to differing needs, perceptions, and situations. Foresters need new skills in this area as well, including working with appropriate indigenous technologies (e.g., integrated farm forestry and agroforestry) to help increase production.

7. Education and Training for Human Resource Development

On campuses where Social Sciences Departments are responsible for teaching social sciences the subjects taught may not impart the knowledge and skills required to meet the particular needs of the social forester.

Since little is currently being done to provide practicing foresters with the knowledge and skills they need to successfully implement social forestry programs in the field, changes must be made in forestry education, training, and extension programs. This requires providing political support and financial assistance as well as removing other institutional and attitudinal constraints.

Curriculum development in social forestry is the main task that needs to be accomplished. To develop new curricula, institutions must survey education and training needs in light of current development requirements. Such a survey should try to identify the differences between the actual knowledge and skills that practicing foresters have and those that they need to be effective and efficient in the implementation of field programs and projects. Based on this information, new education and training objectives can be developed.

Faculty development will be an important part of the effort. In some cases, specialists from other disciplines, especially the social sciences, may be called upon to conduct courses, participate in research efforts, and the like. In other cases, existing forestry faculty may be able to provide appropriate information and skills through existing courses. Over the short-term, many institutions may want to consider further

faculty training through short courses, in-service training, continuing education, and collaborative interdisciplinary research activities.

To succeed, this new approach of 'forestry for the people' requires new types of foresters. The social forestry curriculum at Kasetsart University of Thailand is one example of how this problem may be addressed (Redhead and Ruangpanit, 1985). Questions such as how to balance anthropology and related social science courses with specific forestry-related courses were dealt with in the process of developing this curriculum. The University finally decided to establish a 'Social Forestry Major', based on the same common two-year foundation as other existing 'Forestry Major Programs' to ensure that all students share basic training in forestry, while allowing them the opportunity to pursue greater specialization. The curriculum for 'Required Major Courses' now includes 21 credits of forestry and 21 credits of social science. While Thailand's conditions dictated the development of this social forestry curriculum, the approach taken and the curriculum designed deserve consideration by institutions in other countries contemplating similar education programs.

Forestry agencies will have to make fundamental changes in the attitudes of their personnel and in their structures in order to orient their activities more towards the needs and aspirations of rural people.

Some cautions in developing such a social forestry curriculum include the need to recognize that:

- Student time is already stretched to satisfy existing faculty requirements.
- Not all forestry faculties are permitted to teach social sciences since these courses fall under the responsibility of Departments of Social Sciences on many campuses.
- Where subjects are taught in Departments of Social Sciences, they do not always impart the knowledge and skills required to meet the particular needs of the social forester.

The report of the FAO/EWC Workshop on Socio-Economic Aspects of Community/Social Forestry in 1984 made the following major recommendations:

- Look into forestry curricula at the technical and professional levels to make them more relevant to the changing needs of societies (at this time emphasizing social forestry), without sacrificing competence in general forestry education at the undergraduate and technical levels.
- Introduce continuing education courses concerning new areas of knowledge into forestry faculties.

- o Support and utilize the continuing education facilities created in the region's forestry faculties.

- o Reach out and establish closer links between forestry institutions, departments, and researchers and their social science equivalents in order to solve problems related to forestry-based rural development.

The steady deterioration of forest resources in the Tropics is not so much a technical problem as it is an institutional, social, and political problem.

It is also important to keep in mind that forestry agencies will have to make fundamental changes in the attitudes of their personnel and in their structures in order to orient their activities more towards the needs and aspirations of rural people. Many forestry agencies may need to create special sectors or departments at various levels that deal more specifically with social forestry, extension, and training.

All of the above considerations are based on the underlying belief that the steady deterioration of forest resources in the Tropics is not so much a technical problem as it is an institutional, social, and political problem. Concerned authorities and donor agencies must be reminded that development programs must be based on an accurate understanding of rural situations. Therefore, changing the attitudes of practicing foresters through training and education, modifying institutional structures to promote better communication with rural people, and increasing our understanding of the actual causes of forest deterioration and opportunities for promoting social forestry are primary goals of the forestry profession in the future.

REFERENCE

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8. REFLECTIONS ON THE WORKSHOP

Donald A. Messerschmidt and Tri B. Suselo†

The objective of this session was to have the two observers--Donald Messerschmidt and Tri Suselo--summarize the highlights of the workshop. This served as a reminder of the multiple and complex issues that the participants had raised during the previous days.

We are now witnessing a paradigm shift, a search for new approaches to current and future questions, issues, and problems, which the solutions of the past can no longer fully or adequately answer.

Messerschmidt spoke about the 'process' that is occurring in forestry as it integrates the social sciences. He noted that the process has an internal dynamic in which the social sciences are being applied in field projects, research, curriculum design, and institutional development. He also noted a broader dynamic in which he has observed an emerging 'new' paradigm in international forestry. He believes that we are now witnessing (and helping to bring about) what can best be described as a paradigm shift; i.e., a search for new approaches to current and future questions, issues, and problems, which the solutions of the past can no longer fully or adequately answer.

Messerschmidt observed that it is a time when 'mavericks' are emerging to test and challenge the established wisdom; it is a time when 'flexibility' is demanded of all of us and of the systems in which we work; it is a time when 'risk' is an essential element, risk that we must take as foresters and social scientists, as researchers and academics. He cautioned, however, that the institutions and agencies of forestry development, research, and academia must also be flexible risk-takers for the shift of paradigm to become truly meaningful.

Messerschmidt also touched on the broader perspective of the workshop. He suggested that the workshop had highlighted several innovative and creative ways of engagement:

- Engagement of familiar parts, questions, issues, problems, and methods into a new order;
- Reengagement with the earliest foundations of forestry which had been taught as a social science in India several thousand years ago; and

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- New engagement as we move toward a 'new' forestry and a 'new' social science with potentially 'new' innovative solutions.

The workshop highlighted several innovative and creative ways of engagement: engagement of familiar parts, questions, issues, problems, and methods into a new order; reengagement with the earliest foundations of forestry which had been taught as a social science in India several thousand years ago; and new engagement as we move toward a 'new' forestry and a 'new' social science with potentially 'new' innovative solutions.

Messerschmidt outlined the various components of the paradigm he felt the workshop participants had been addressing.

- The Conceptual Component This involves asking and answering the journalist's questions of 'What' and 'Where'. This component responds to the need to discuss, document, and synthesize what is known and useful, as well as what is not yet clear. It also involves finding where to ask new questions and search for new answers.

- The Structural Component This involves asking and answering the questions of 'How' and 'When'. These questions include how to structure effective collaboration and partnership at all levels of project research and academia and when to engage the 'Whats'.

- The Evaluative Component This involves the 'Who' and 'Why' questions as well as the 'So What' and 'For Whom'. All parties in this integrative process of paradigm development must answer these questions in positive and constructive ways in order for the evolution of a more socially-responsive forestry to proceed.

Messerschmidt noted that there could be no closure to the workshop. By this, he meant that this effort was part of a continuing process, a process of changing a paradigm. This process or shift occurs when a critical mass of questions and knowledge begin to point toward new answers and solutions and ultimately toward new knowledge. This critical mass development is never complete but only grows or diminishes with the conditions and the times, pushing the learning curve toward important new heights. What the participants of this workshop accomplished was an important and large step, but only one step, in the longer, dynamic process.

Three issues that must be addressed are 1) how to bring forestry to social science, 2) how to make the resources available that are necessary for curriculum improvement and growth, and 3) how to carry on the workshop endeavor of paradigm redefinition and change?

In conclusion, Messerschmidt raised three issues that have to be addressed in the future:

- How can forestry be brought to social science? Most of the workshop's discussions focused on how to bring social science to forestry.

- How to make the resources available that are necessary for curriculum improvement and growth (i.e., texts, documents, experienced people, etc.)?

- How to carry on the workshop endeavor of paradigm redefinition and change as individuals, as institutions of education and research, and as agencies implementing and funding forestry activities?

Communications skills for foresters, collection of indigenous knowledge, and programs that meet the range of educational needs of professional foresters are among the challenges facing forestry education in the future.

Suselo provided reflections on the challenges to forestry education in the future. He specifically focused on communications skills as being one of the most critical skills for foresters to develop, on the need for collection of indigenous knowledge to enhance forestry practice at the local level, and on the kind of programs that must evolve to meet the range of educational needs of professional foresters.

Suselo stated that the most important issue is communications between foresters and other disciplines, and between foresters and local people. Existing communications gaps can be remedied if foresters improve their listening and questioning skills.

Suselo noted another gap, a gap in knowledge about local practices. He urged that the collection of indigenous knowledge and existing structures be systematized and improved by scientific input. He also stressed the value of sharing experiences by disseminating this knowledge and the skills to obtain it.

Suselo discussing a range of educational opportunities that could enhance professional development. He spoke of post graduate programs producing new foresters with multidisciplinary thinking and undergraduate programs establishing new majors in social forestry as a branch of forestry. He concluded by outlining the range of approaches that might be identified and followed depending on each institution's needs and capabilities. These approaches include general courses in social sciences to complement forestry, core courses that provide students with the opportunity to specialize, and electives or optional courses that provide students with information to meet their specific interests and needs.

Sayogo, Jayatilaka, Achet, Chinnamani, Borlagdan, Tuladhar, Wirawam and Awang reflect on the Workshop.

9. PRELIMINARY RECOMMENDATIONS

Cor P. Veer†

SUMMARY

Based on workshop presentations, discussions, and working group sessions, the participants formulated recommendations for priority action to improve the integration of social sciences and forestry curricula. The following summary of recommendations by the working groups covers specific issues related to the integration of the social sciences and forestry in the categories:

- o Interdisciplinary research,
- o Development of educational materials and curricula, and
- o Organizational structure and function.

This summary of workshop recommendations covers specific issues related to the integration of the social sciences and forestry in the categories of interdisciplinary research, development of educational materials and curricula, and organizational structure and function.

While the list seems rather detailed, participants agreed that these are an illustrative rather than a complete list of recommendations to achieve the aforementioned objective. Refinement of these and other recommendations is needed.

In addition to these recommendations, other specific suggestions can be found in the text of the preceding sections of this Report. The reader should refer to these sections and to Report section 10, entitled 'Some Recommendations for Action', to gain an idea of the full range of recommendations.

RESEARCH NEEDS AND STRATEGIES

Participants identified major substantive and methodological issues that require an integrated social science-forestry approach. Participants identified these issues from the perspectives of immediate practical relevance to our understanding of complex field problems and of curriculum development that might include elements of existing and new knowledge about these complex issues.

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1. The substantive issues requiring priority attention are:

   - o Identify and apply indigenous tree and forest management techniques and regimes.
   - o Examine the influence of land and tree tenure upon forest and tree management practices.
   - o Determine the interrelationships between poverty, environment, and productivity.
   - o Assess the impact of forest policies on rural resources and their management.
   - o Identify, analyze, and modify institutional issues in curriculum design.

Among the research strategies requiring priority attention are making more effective use of emerging concepts from both the social and forest sciences, and exposing foresters and social scientists to complementary research tools and skills.

2. The methodological issues requiring priority attention are:

   - o Develop, expand, and refine socio-technical concepts, methods, and techniques for forestry systems.
   - o Refine and adapt inventory techniques for human and biophysical resources.
   - o Adapt farming systems research and development approaches for rural forestry activities.

3. The research strategies requiring priority attention are:

   - o Identify specific cases and use exploratory approaches to generate open-ended generalizations that can identify issues and hypotheses for further in-depth study.
   - o Disseminate the results of such exploratory, innovative research widely to students, program managers, and faculty.
   - o Make more effective use of emerging concepts from both the social and forest sciences.
   - o Expose foresters and social scientists to complementary research tools and skills.
   - o Create opportunities that allow students and faculty to be exposed to a wide range of socioeconomic and agro-ecological situations and forest resource management regimes.

- Create more opportunities and incentives for joint publications by foresters and social scientists. Funding agencies should be made more aware of the need for appropriate support and appropriate media for publications of this kind.

- Compile 'integrative manuals' on specific topics and situations that are useful for students and field staff.

- Analyze the administrative and organizational constraints and opportunities for the introduction and replication of innovative practices which integrate social science and forestry perspectives.

While participants agreed that, at the present stage, integration of social sciences and forestry can be most effectively done in professional education, they recommended that the experiences and materials developed for professional education eventually be adapted for use in technical-level curricula as well.

DEVELOPMENT OF EDUCATIONAL MATERIALS AND CURRICULA

Participants believed that the need for 'integrative' curriculum development is urgent for both technical and professional education programs. While participants agreed that, at the present stage, integration of social sciences and forestry can be most efficiently done in professional education, they recommended that the experiences and materials developed for professional education eventually be adapted for use in technical-level curricula as well. The recommendations presented here refer to professional education only.

1. Recommendations for <u>development of curriculum for education</u> are:

   - Identify, collect, and review 'candidate model curricula' which cover a variety of institutional arrangements and other relevant professional fields (e.g., agriculture).

   - Identify and analyze courses within existing curricula that would benefit from improved social science or forestry inputs (e.g., in Forestry: 'Introduction to Forestry', 'Forest Resources Management', 'Forest Policy', etc., and in Social Sciences: 'Rural Development', 'Applied Social Science', etc.).

   - Improve the evaluation of curricula. This might include evaluation of M.Sc. theses as a new indicator of the quality and nature of the programs; peer review of courses; evaluation of alumni performance; and assistance from experts from similar institutions in the region.

2. Recommendations for development of 'integrative' teaching strategies include:

- o Introduce or improve 'field-study' sites and activities (e.g., social laboratories, integrative practicums, etc.). The development of such field-based learning experiences and the lessons learned from successes and failures in field practice in forestry and related fields should be documented and synthesized.

- o Create or improve existing opportunities for team teaching by social scientist-forester teams in courses, seminars, lectures by visiting scholars, etc.

- o Create or improve opportunities for alternative teaching/learning strategies such as contractual teaching/learning, tutorial courses, etc.

- o Seek assistance from program and project-implementing agencies in sending project reports to the libraries of relevant training institutions on a more routine basis.

- o Organize teacher-training courses at selected institutions in the region (e.g., UPLB, KU) with an emphasis on skills to analyze and synthesize project and research reports in the preparation of educational materials.

- o Prepare volumes of studies of selected cases from countries in the region, including translations if necessary, and provide supporting audio-visual materials (e.g., videos) wherever feasible. Use the video-camera as a learning/teaching instrument.

- o Improve the collection, exchange, dissemination, review, and synthesis of relevant educational materials, including M.Sc. and Ph.D. theses across the region and globally.

ORGANIZATIONAL ISSUES

- o Identify the sources of catalytic funding for activities identified in this set of recommendations.

- o Explore the possibilities and modalities of inter-institutional action programs with existing and emerging relevant networks.

10. SOME RECOMMENDATIONS FOR ACTION

J. Kathy Parker†

INTRODUCTION

This summary report draws the recommendations from all of the workshop sessions together with the participants' responses to the questions posed in Worksheets 5A - C (Appendix 3). The diverse suggestions of the workshop participants have been reorganized here to provide a preliminary 'menu' of possible avenues of coherent and concerted action by institutions and donors interested in promoting the integration of the social sciences in Asian forestry curricula. A 'bulleted' format has been used for quick reference. The shorthand descriptions below are complemented by more detailed comments in the other sections of this Report.

The recommendations that follow are divided into the sections:

- General Characteristics of Curricula Integrating the Social Sciences in Forestry
- Goals and Objectives of Forestry Curricula Integrating the Social Sciences
- Strategic Approaches to Integrating the Social Sciences in Forestry Curricula
- Substantive Issues that Might Be Addressed in a Curriculum that Integrates the Social Sciences and Forestry
- Process Issues that Might be Addressed in Integrating the Social Sciences in Forestry Curricula

GENERAL CHARACTERISTICS OF CURRICULA INTEGRATING THE SOCIAL SCIENCES IN FORESTRY

Forestry curricula which integrate the social sciences must have the following characteristics or strive to meet them as they evolve:

- Curricula need to develop a substantial body of knowledge which integrates the social sciences in forestry to sustain and propel a program in forestry education.
- Curricula must address the needs of the forestry practitioners they produce. Foresters want and need more knowledge about how to promote and respond to constructive local participation in resource management. They need more knowledge about the different groups they deal with, whether communities, user groups, etc.

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- The educational process should not be producing only government resource managers per se, since farmers actually constitute the vast majority of resource managers.[1] Rather, the educational system should train the trainers of these managers--i.e., the people who will develop and transfer technologies, the field practitioners who will work with farmers and local people in determining appropriate resource management strategies. This educational approach recognizes a different reality than traditional programs have been designed to address.

GOALS AND OBJECTIVES OF FORESTRY CURRICULA INTEGRATING THE SOCIAL SCIENCES

The goals and objectives of forestry curricula that integrate the social sciences should retain their emphasis on high quality forestry education; however, they should be expanded to focus more on how forestry fits within its social, economic, institutional, political, and legal context. These expanded goals and objectives might include, but are not limited to, the following:

- Universities should encourage models that create better, more integrated learning opportunities.

- The operational goals of rural development should be to engage people in the management of forests and natural resources. The ultimate goal is empowerment of people so that they have more influence and control over their lives in the future.[2]

- Curricula integrating the social sciences and forestry should expose foresters to social sciences as well as tomultidisciplinary research skills.

- Integrated curricula should promote improved relationships between students and teachers, local people and forestry professionals, national and international institutions, etc.

- University research programs, institutes, and countries should work to increase and promote a shared learning curve across the region.

STRATEGIC APPROACHES TO INTEGRATING THE SOCIAL SCIENCES IN FORESTRY CURRICULA

Strategic approaches to integrating the social sciences in forestry curricula might include the following themes or emphases:

1. Systems perspectives,

2. Integration and linkages,

3. Dynamism to fit changing realities, and

4. Pragmatic opportunism.

1. Systems Perspectives

More systems approaches to forestry education, research, and practice should be taken, with interdisciplinary contributions being promoted. The social sciences would be partners with forestry in this kind of approach--taking the lead when appropriate, being integrated when appropriate, and being brought in at the outset in most cases, rather than being left as an afterthought which is often the case at present.

2. Integration and Linkages

- o Forestry institutions need to work with social scientists and forestry departments to plan courses in social sciences that will serve the needs of new field foresters.

- o Government support and university openness should create linkages between academic institutions and government field implementing agencies, non-governmental organizations, and related groups, by sharing resources (including both staff and students) in teaching, research, and rural development.

3. Dynamism to Fit Changing Realities

- o Faculty members need to keep the cycle of information and learning flowing by ensuring that lessons from field practice, case studies, and the like flow in timely fashion back into class lectures.

- o University forestry departments should start innovative reorganization, using existing resources within their faculties, among other faculties at their institutions, and between their institutions and other universities when appropriate and feasible.

- o University forestry departments, government agencies, forestry associations, and individuals should identify and review the knowledge, skills, attitudes, and new functions of foresters and social scientists in the changing situation relative to the range of forest practices (i.e., industrial forestry, recreation, environmental management, public use of forests, rural development activities, subsistence forestry, community and village development, tribal welfare).

- o Forestry faculties need to draw more from the large body of knowledge that has already been developed in the area of agriculture-based rural development.

4. Pragmatic Opportunism

- o Universities should take advantage of existing faculty and resources to integrate the social sciences.

- o Universities should determine the most appropriate strategies for integrating the social sciences. Some models of these include:

  - 'Core' programs of social sciences developed as part of the total forestry educational program, thereby giving students the option of majoring in social science forestry.

  - 'Spiral' programs, where faculty members integrate the social sciences into traditional forestry courses (e.g., participatory planning in a forest management course, social objectives for a tree breeding course).

  - 'Back door' approaches, where the social sciences are integrated into existing courses without changing course titles to reflect the change. This avoids confronting rigid criteria for curriculum and course content.

SUBSTANTIVE ISSUES THAT MIGHT BE ADDRESSED IN A CURRICULUM THAT INTEGRATES THE SOCIAL SCIENCES AND FORESTRY

Curriculum development rests in great part on the knowledge base from which it must draw. Universities generally are both users and producers of knowledge; they use it to teach and they produce it through research. Knowledge generated through research and field practice ideally should flow back into teaching. A range of substantive issues related to the generation and use of knowledge must be addressed in curricula that integrate the social sciences in forestry. These substantive issues include topics that require priority attention, methods that must be developed or refined and applied, and skills that must be transmitted. Examples of these follow.

Topics requiring priority attention include, but are not limited to:

1. Social

- o Issues related to the landless and disenfranchised segments of society, tribals, and resettlement as they relate to natural forest management.

- o Demands by urbanites for recreational opportunities in natural forests.

- o The need to focus not just on rural forestry issues, but also on urban, town, and village consumers.

2. Economic

- o Interrelationships between poverty, environment, and productivity.

3. Legal/Policy

- o Land and tree tenure.
- o Impact of forest policies on rural resources and their management.

4. Institutional

Institutional constraints and opportunities affecting curriculum design may require some 'creative' adjustments.

5. Socio-technical

- o Indigenous tree and forest management techniques and regimes.
- o Traditional management practices for trees as single units on arms.
- o Selection, improvement and management of multipurpose species by farmers.
- o Selection of mixtures of species and components of agroforestry and agrosilvipastural systems, markets for produce, etc.
- o Farmer preferences serving as guidelines for tree improvement research through tissue culture. Methodological issues requiring priority attention include, but are not limited to the following:
- o Socio-technical concepts, methods and techniques.
- o Refinement and adaptation of social inventory techniques.
- o Adaptation of farming systems research and development approaches to forestry.

Skills that need to be transmitted include:

- o More communications skills so that foresters can better interact with, learn from, and work with local people to help them solve their problems.
- o Media management of ideas, skills, and concepts for rural people and policy makers.

PROCESS ISSUES THAT MIGHT BE ADDRESSED IN INTEGRATING THE SOCIAL SCIENCES IN FORESTRY CURRICULA

In order to develop new or modify existing curricula to integrate the social sciences in forestry, some of the following can serve as guides. Again, they do not cover all aspects of the implementation of curriculum reform and design, but they do provide some useful points of departure for this activity. Some are quite specific while others require greater levels of specification to be useful to a particular situation or institution. They are divided into the following categories, with details provided below.

1. Research implementation strategies and research design issues that forestry faculties need to consider
2. Identification, planning, and evaluation of curricula for professional education
3. Faculty development for integration of the social sciences in forestry
4. Development of integrative teaching strategies
5. Strengthening of existing curricula
6. Educational materials for an integrated curricula
7. Programs supporting the integration of the social sciences in forestry curricula
8. Networking (intra-institutional, inter-institutional, national, regional, and international)
9. Bureaucratic processes that help or hinder integration
10. Government policies affecting integration of the social sciences in forestry
11. Funding of programs that integrate the social sciences
12. Educational programs and field practice (to meet government objectives related to work with the rural people)

1. <u>Research Implementation Strategies and Research Design Issues</u>

   - o Forestry faculties should develop guidelines for identifying interdisciplinary research opportunities that can also serve as learning opportunities for students. These guidelines might include answering the following questions relative to research opportunities: What?, Where?, When?, By whom?, How?, How much?
   - o Forestry faculties and funders should develop and apply criteria (e.g., sustainability, productivity, and equitability) in judging research strategies that integrate the social sciences in forestry.

- University research programs integrating social sciences in forestry should use specific cases and exploratory approaches to produce open-ended generalizations that can facilitate the identification of issues and hypotheses for further in-depth study.

- Forestry faculties should widely disseminate the results of such exploratory, innovative research to students, program managers, and faculty.

- Forestry faculties should find better and faster mechanisms to incorporate emerging concepts from both the social and forest sciences into their programs.

- Universities should promote exposure of foresters and social scientists to complementary research tools and skills.

- Forestry education and research efforts should encourage the creation of broader opportunities for students and faculty to experience a wide range of socioeconomic and agro-ecological situations and forest resource management regimes.

- University forestry programs should create more opportunities and incentives for joint publications by foresters and social scientists. Funding agencies should be made more aware of the need for appropriate support and appropriate media for publications of this kind.

- Institutions should compile 'how-to' manuals on integration of social sciences for specific topics and situations that are useful for students and field staff.

- Universities should analyze the administrative and organizational constraints and opportunities to introduce and replicate innovative practices that integrate social science and forestry perspectives.

- Forestry faculties need to find ways to promote more continuity in the research process. Longer term studies incorporating a series of continuous but short-term research projects in which students can participate to build a mutually beneficial learning curve should be encouraged.

2. <u>Identification, Planning, and Evaluation of Curricula for Professional Education</u>

- Support should be given to an appropriate entity to identify, collect, and review 'candidate model curricula' that cover a variety of institutional arrangements and other relevant professional fields (e.g., agriculture).

- Universities should identify and analyze courses within existing curricula that would benefit from improved social science or forestry inputs (e.g., in Forestry: 'Introduction to Forestry', 'Forest Resources Management', 'Forest Policy', etc., and in Social Sciences: 'Rural Development', 'Applied Social Science', etc.).

- o Universities should improve the process used to evaluate existing curricula. Indicators to use in assessing the nature and quality of programs could include evaluation of M.Sc. theses, peer review of courses, evaluation of alumni performance, and assistance from experts from similar institutions in the region.

3. Faculty Development

- o Universities should organize and support teacher-training courses at selected institutions in the region (e.g., Kasetsart University), with an emphasis on the development of skills to analyze and synthesize project and research reports in the preparation of educational materials.

- o Universities should support faculty development by introducing team teaching in appropriate courses, joint applied interdisciplinary research, project evaluations, and consultancies.

4. Development of Integrative Teaching Strategies

- o Forestry faculties should introduce or improve 'field-study' sites and activities (e.g., social laboratories, integrative practicums, etc.). The lessons from successes and failures in field practice in forestry and related fields should be documented and synthesized.

- o Universities and faculties should create or improve existing opportunities for team teaching by social scientist-forester teams in courses, seminars, lectures by visiting scholars, etc.

- o Universities and faculties should create or improve opportunities for alternative teaching/learning strategies, such as contractual teaching/learning, tutorial courses, etc.

- o Faculties should evaluate ways to enhance teaching and learning through their existing programs of:

  - Lectures,

  - Case studies,

  - Field practice, and

  - Discussion of competing development paradigms by well-known Asian scholars.

5. Strengthening Existing Curricula

- o Faculties should consider the possibility of dropping less productive traditional forestry courses and adding social science courses to take their place.
- o Forestry faculties should incorporate more social science components in existing courses such as ecology.
- o Forestry faculties should retain the title of a more traditional course under existing university curricula, but change the syllabus and course content to teach more modern concepts of social sciences in forestry.
- o Universities should encourage professors to teach social sciences in traditional forestry courses.
- o Faculties should disseminate more publications, research results, examples of model curricula, etc., to enhance the content and organization of courses.
- o Universities should develop a network among faculty members teaching social sciences in forestry and exchange information between individuals, institutions, and countries.
- o Forestry faculties should hold seminars and workshops to increase awareness and to exchange knowledge and information on the social sciences in forestry.
- o Universities should exchange professors (though this is sometimes problematic because of the cost of travel, difficulties in obtaining permission and leave, etc.).
- o Faculties should teach social sciences under the broad umbrella of forestry with a greater stress on social sciences at all levels.
- o Forestry faculties should consider the possibility of reducing basic core forestry subjects and increasing social science subjects to broaden the education of all forestry students.
- o Forestry departments should introduce electives and majors of social science in forestry curricula where appropriate.
- o Faculty members should evaluate field experiences and pose field problems directly to practicing social scientists, rural development specialists, and foresters, and should incorporate these new learning opportunities in existing curricula.
- o Forestry faculties should change master degree program requirements and thesis work in social sciences related to forestry and rural development projects. They should ensure that the knowledge from theses feeds back into the curriculum development process for improved course content.

6. Educational Materials for Integrated Curricula

A mechanism should be developed that promotes the preparation of volumes of studies of selected cases from countries in the region, including translations if necessary, and provides supporting audio-visual materials (e.g., videos) wherever feasible. Video-cameras and other media should be evaluated as learning/teaching instruments.

7. Programs Supporting the Integration of the Social Sciences in Forestry Curricula

- o Program and project-implementing agencies should send project reports to the libraries of relevant forestry training institutions on a more routine basis.
- o Universities should improve the collection, exchange, dissemination, review, and synthesis of relevant educational materials, including M.Sc. and Ph.D. theses, across the region and globally.
- o Universities should encourage the development of forestry library facilities, provide incentives to publish teaching texts and jointly authored articles in professional journals, and support the performance of public service and extension works.
- o Universities should identify and tap sources of support for publications and report dissemination.
- o Universities should support networks, travel funds, translation of excerpts of important scientific works, proceedings of seminars and workshops, publications, etc.

8. Networking

- o Universities in the region should explore with existing and emerging relevant networks, the possibilities and modalities of inter-institutional action programs.
- o Universities should identify opportunities and find support for the exchange of faculty/staff within and between countries in the region and internationally.
- o Forestry departments should support and participate in the establishment of professional associations and informal networks of scientists from various disciplines.

9. Bureaucratic Processes that Help or Hinder Integration

- o Universities should strive to modernize their traditional, time-consuming bureaucratic processes of curriculum development. This would have an impact on all programs, not just forestry.

- o Universities should routinize linkages and contacts such as field visits, workshops on curriculum development for decision makers and faculty, etc.

10. Government Policies

Government policies should be modified to provide incentives (e.g., funds, support) for universities to include new courses and concepts.

11. Funding of Programs

- o Universities across the region should survey sources of catalytic funding for activities.

- o Catalytic funding from the donor community should be tapped by lead forestry faculties or by new social forestry organizations to access and disseminate existing and new knowledge. The purposes of such an effort would be to:

  - Provide quicker and easier access to information at the country and regional level;

  - Serve as the organizer of periodic workshops, seminars, and meetings for members to learn from each other while fostering peer review to enhance the quality of such learning experiences; and

  - Facilitate the regular update of a roster of experts, scholars, and field practitioners to make it easier to tap the experiences of those in the region who are working on the integration of social sciences and forestry.

- o Funding for joint research projects and programs between universities and implementation agencies should be strongly promoted and strengthened.

- o The donor community needs to provide continued funding for university development, collaborative research, professional development, student activities, and other special projects and programs.

- o Governments and donors need to provide continuous funding and other forms of support for institutional development that integrates the social sciences in forestry curricula. Universities need to find some mechanism to obtain and maintain a list of donors inside and outside of each country who can be of help in providing funds for development of more integrated curricula.

12. Educational Programs and Field Practice

- o The public and private sector should be encouraged to provide wider job opportunities to students who complete the requirements of these newly integrated curricula.

- o Field staff should work with academic staff to identify lessons learned. At the same time, field workers should be trained in how to write technical reports and manuals.

- o Government projects should involve scientists and practitioners from varied disciplines in project planning, implementation, and action research.

- o Both university and implementing agencies should collaborate with rural organizations to carry out forestry extension works.

It is important to reemphasize that these suggestions are illustrative rather than comprehensive. They are generic, rather than specific to a particular university or program. They represent a single iteration of input and need more specification to be of greater use. However, they can serve as an important beginning to future thinking about curriculum development in forestry programs generally, and about the integration of the social sciences in forestry curricula in Asia more specifically.

1.Tuladhar states: "This is an idealistic misconception because most foresters in [government] departments are the actual managers, and will be so for a long time. The problem is that foresters do not like to acknowledge this, and swing from being police officers protecting state land to being professionals offering advice. In any case, they often shirk their responsibility for real management!"

2.Tuladhar observes that "The ultimate goal is the promotion of progressively more efficient management of forests and natural resources, given the finite nature of physical resources and the infinite nature of human creativity (for both population and ideas)."

APPENDIX i

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APPENDIX 2

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Appendix 3

WORKSHEET 1.

Instructions for completion:

1. List a range of major planning, management, and technology transfer problems that must be addressed.

2. Discuss what we know, focusing on what knowledge we have from the social sciences that we can communicate through education and training; outline and summarize these points on the worksheet.

3. Discuss how we can best use or apply this knowledge to understand and/or solve specific problems and when it is most appropriate to use the knowledge; outline and summarize these points on the worksheet.

4. List places where this knowledge/information might be found.

5. Discuss and outline ways to better organize and access this knowledge/information.

WORKSHEET 1.

Management Problem to be Addressed	What Do We Know? What Knowledge Can We Communicate Through Education & Training	How Can We Use/ Apply this Knowledge? When? (e.g. planning, implementation, extension)	Where Is This Knowledge Found? --In region --Classical literature --etc.	How Can We Organize & Access this Knowledge

WORKSHEET 2.

Instructions for completion:

1. Discuss and list gaps in knowledge about social, economic, and institutional aspects of forestry in Asia.

2. Discuss and record thoughts about how to fill those gaps (e.g. research, development of new methods, training needs, etc.)

3. Determine priority that should be given to each.

What Do We Need to Know? (Gaps in our Knowledge)	How to Fill Gaps -Development of New Methods -Research -Training	Priority Level High/Medium/Low Short/Medium/ Longterm

WORKSHEET 3.

Instructions for Completion:

1. Outline in column 1 the major applications of research that students must understand to become more effective professionals (Applications might include: planning, implementation/resource management, extension/technology transfer, project/activity monitoring, evaluation, and education/training of project or program personnel.)

2. Outline in column 2 ways or guidelines for turning research opportunities into teaching/learning experiences (e.g., hypothesis development and testing, field surveys for participatory planning).

WORKSHEET 3.

Research Opportunities to Enhance Teaching/Learning

Research Opportunities	Principal Applications of Research that Students Need to Understand.	Means to use Research to Enhance Teaching/Learning.
Theory (Development and Application)		
Methods and Indicator Measures (Development and Application)		
Extension/ Tech. Transfer		

WORKSHEET 4.

Instructions for Completion:

1. Brainstorm and outline critical organizational issues related to improving the integration of the social sciences in forestry curriculum.

2. Outline ways to enhance opportunities and remove obstacles to addressing each of these issues.

Organizational Issues	
Critical Issues Opportunities/Constraints to Improved Integration (e.g. sustainability, continuity, resource distribution, faculty development)	Means to Enhance Opportunites & Overcome Obstacles to Addressing These Issues

WORKSHEET 5A.

Instructions for Completion:

1. Think back over the previous days at the workshop and list some specific recommendations on substantive issues (e.g. on application of existing knowledge, etc.)

2. Indicate the time frame during which these recommendations should be implemented.

Recommendations for Priority Action
Substantive Issues

Recommendations	Time Frame		
	Short	Medium	Long
e.g. On how to apply what we know On what do we need to know. On how do we fill gaps. On research needs, theory, methods & measures, tech. transfer.			

WORKSHEET 5B.

Instructions for Completion:

1. Think back over the previous days at the workshop and list some specific recommendations on Curriculum Development and Educational Materials.

2. Indicate the time frame during which these recommendations should be implemented.

Recommendations for Priority Action

Educational Materials and Curriculum Development

Recommendations	Short	Medium	Long
e.g. Model curricula. Improved teaching tools, techniques, methods. Guidelines for integration. Teaching materials that need to be developed.			

WORKSHEET 5C.

Instructions for Completion:

1. Think back over the previous days at the workshop and list some specific recommendations on Organizational Issues.

2. Indicate the time frame during which these recommendations should be impemented.

Recommendations for Priority Action
Organizational Issues

Recommendations	Time Frame		
	Short	Medium	Long
e.g. Regional training needs. Networking potential. Incentives for integration.			

WORKSHOP PROGRAM

Presented by Yale Tropical Resources Institute and FAO Regional Office for Asia & the Pacific

Sponsored by U.S.Agency for International Development through Winrock International (F/FRED)

SOCIAL SCIENCES IN ASIAN FORESTRY CURRICULA WORKSHOP

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SOCIAL SCIENCES IN ASIAN FORESTRY CURRICULA WORKSHOP
GOALS, OBJECTIVES, & ANTICIPATED OUTPUTS

GOALS

- To support the integration of the social sciences in university forestry programs.
- To strengthen the role of the forestry and social science professions in steadily expanding farm and community level forestry programs throughout Asia.

OBJECTIVES

- Discuss substantive/conceptual aspects of integrating social sciences in forestry curricula.
- Discuss institutional opportunities and constraints to the integration of social sciences in farm and community forestry education and research programs.
- Improve understanding of curriculum design process and improve teaching methods that integrate the social sciences in forestry.
- Discuss skills to implement curricular change.
- Recommend future cooperative action among forestry schools across the region on matters of social science related curricula.
- Develop mechanisms for exchange of knowledge between disciplines, institutions and countries within the region.

ANTICIPATED OUTPUTS

1. **Learning Process**
   - Enhance existing F/FRED networks.
   - Enhance the Asia learning curve in farm and community level forestry in order to assist Africa, Latin America, North America and Europe to develop more human-oriented forestry.
   - Strengthen the new FAO forestry education network in the Asia-Pacific region.
   - Improve understanding of curriculum development process.

2. **Learning Materials**
   - Workshop proceedings.
   - Format for systematic data and research accumulation.
   - Social science bibliographies grouped by discipline, country and problem area.
   - Social science excerpts.
   - Model curricula to illustrate the range of curricula that might be useful across the region.
   - Publication of other articles based on the information obtained at the workshop.

3. **Institutional Learning**
   - Obtain further insights on the integration of social sciences in forestry curricula through travel to institutions in the region to report the results of the workshop.
   - Seek means for institutional collaboration across the region through identification of an institutional division of labor.
   - Develop baseline information for monitoring the integration of the social sciences in forestry curricula in the future.
   - Contribute to F/FRED software on the social sciences role in the selection, improvement and management of multipurpose tree species.
   - Produce guidelines for curriculum design.
   - Produce guidelines for regional training and educational development opportunities.
   - Develop mechanisms for exchange of course outlines, reading lists and other teaching materials.

SOCIAL SCIENCES IN ASIAN FORESTRY CURRICULA WORKSHOP

SCHEDULE

Sunday, November 27, 1988

6:00 hrs.	Breakfast Baggage collection at Krit-Thai Mansion Hotel.
7:00 hrs.	Participants board bus for transfer to "Hua Lan Pong", Bangkok's main railway station.
8:20-15:15 hrs.	Journey to Khon Kaen by train (please refer to enclosure in notebook for details of trip).
15:15 hrs.	Transfer to Rosesukhon Hotel, Khon Kaen.
15:45-18:30 hrs.	Registration/Relaxation time.
18:30 hrs.	Cocktail reception/Welcome and introductions.

Welcome — Dr. Somporn Pothinam
President, Khon Kaen University

Introductions — Dr. Sanga Sabhrasi
Permanent Secretary
Ministry of Science, Technology and Energy, Thailand

Dr. William R. Burch, Jr.
Professor, Yale University

Dr. J. Kathy Parker
Oriskany Institute, Workshop Facilitator

19:30 hrs. Dinner at hotel.

Monday, November 28, 1988

7:30 hrs.	Breakfast
8:30-8:45 hrs.	**Introduction to the Workshop** - Dr. J.Kathy Parker Objective -Introduce the workshop objectives, schedule, and format.

8:45-10:15 hrs. **Panel on Field Problems in Forestry with Social Science Implications** - Dr. Junus Kartasubrata, Professor, Bogor Agricultural University.

Objectives -Panel presentations on major field issues that must be addressed by education and training that integrates the social sciences in forestry curricula.
-Followup discussion by participants.

Output
Anticipated - Dialogue on major field issues.

10:15-10:45 hrs. Break

10:45-12:15 hrs. **Contribution of Social Science to Solving Field Problems** - Dr. Junus Kartasubrata.

Objectives -Panel presentations on preliminary ideas about contributions of social sciences to solving field problems.
-Discussion by participants.

Output
Anticipated -Dialogue on some of the contributions of social sciences.

12:15-14:00 hrs. Lunch

14:00-15:30 hrs. **Work Groups -What Do We Know and How Can We Apply It?**
Introductory Discussion - Dr. Kathy Parker.

Objectives -Outline the range and scale of social science disciplines that are available to be applied.
-Discuss the state-of-the-art of what we know about major socio-economic issues in forestry.

Output
Anticipated -Completion of Worksheet #1.

15:30-16:00 hrs. Break

16:00-17:30 p.m. **Work Groups -What Do We Need to Know and How Can We Fill Gaps in Knowledge?**
Introductory Discussion - Dr. Kathy Parker.

Objectives -Preliminary discussion about what we need to know; i.e., what are our gaps in knowledge.
-Discussion about how to fill those gaps and determination of priority level that should be given to fill each gap.

Output
Anticipated -Completion of Worksheet #2.

18:30 hrs. Pickup and transfer to local restaurant for traditional Northeast Thailand dinner and cultural performance.

Tuesday, November 29, 1988

7:30 hrs. Breakfast

8:30-17:30 hrs. **Field Trip** - Mr. Komon Pragtong, Royal Forestry Department, Thailand (please refer to enclosure in notebook for details of the field trip).

Objectives -Visit field sites.
-Discuss socio-economic issues related to forestry.

Output
Anticipated -Discussion of issues.
-Common frame of reference for participants for other discussions during the course of the workshop.

19:00 hrs. Dinner at hotel.

Wednesday, November 30, 1988

7:30 hrs. Breakfast

9:00-12:00 hrs. (inc. break) **Plenary - Perceived Opportunities, Necessities, Possibilities, Irrelevancies for Curriculum Development** - Dr. William Burch.

Objective -Discuss theories, methods, and educational and training materials.

Outputs
Anticipated -List of major topics related to each of these theories, methods, and educational and training materials.
-Determine level of consensus or conflict about major contributions and tools available for curriculum development.

12:30-14:00 hrs. Lunch

14:00-14:30 hrs. **Plenary -Developing Integrated Research Opportunities** - Dr. Amulya Tuladhar, Professor, Institute of Foresty, Nepal.

Objective -Preliminary discussion about research opportunities that will enhance teaching.

Output
Anticipated -Introduce ideas to serve as basis for work group discussions.

14:30-15:45 hrs. **Work Groups -Development of Research Agenda that Integrates Social Sciences and that Serves as Training/Educational Experience in Forestry Programs.**

Objective -More detailed discussions of research opportunities that will enhance teaching.

Outputs
Anticipated -Outline of research needs for project planning, implementation, extension, monitoring, evaluation, and education/training.
-Completion of worksheet #3.

15:45-16:00 hrs. Break

16:00-16:30 hrs. **Plenary -Curriculum Design - Introductory Discussion** - Dr. Lucretio Rebugio, Professor, University of the Philippines at Los Banos.

Objective -Discussion of curriculum design process to integrate the social sciences in forestry curricula.

Output
Anticipated -Preliminary discussions to serve as frame of reference for work groups.

16:30-17:30 hrs. **Work Groups -Curriculum Design Questionnaire**

Objective -Review and comment on draft.

Output
Anticipated -Revision of Draft Curriculum Design Questionnaire.

19:00 hrs. Dinner at hotel.

Thursday, December 1, 1988

7:30 hrs. Breakfast

8:30-8:45 hrs. **Plenary -Curriculum Design** - Dr. Lucretio Rebugio.

Objective -Introduce the usefulness of developing some illustrative model curricula.

Output
Anticipated -Outline of some illustrative model curricula that address key needs in educating forestry practitioners.

8:45-10:15 hrs. **Work Groups -Model Curricula**

Objective -Discuss model curricula based on experience and previous discussions.

Output
Anticipated -Outline some illustrative model curricula that address key needs in forestry practice.

10:15-10:45 hrs. Break

10:45-11:15 hrs. **Plenary -Organizational Issues-Introductory Discussion** - Dr. Niwat Ruangpanit, Associate Dean, Kasetsart University and Dr. Jeff Romm, Professor, University of California at Berkeley.

Objective -Discussion of critical issues, opportunities, constraints, sustainability, continuity and resource distribution for forestry education programs.

Output
Anticipated -Preliminary discussions to serve as basis for work group session.

11:15-12:30 hrs. **Work Groups -Organizational Issues**

Objectives -Outline and discuss critical issues related to opportunities and constraints to improving the integration of social sciences in forestry curricula.
-Share experiences from across the region.

Output
Anticipated -Completion of Worksheet #5.

12:30-14:00 hrs. Lunch

14:00-14:45 hrs. **Plenary -Workshop Summary** - Dr. Celso Lantican, Training Specialist, Winrock International F/FRED Project and Dr. Donald Messerschmidt, Social Forestry Coordinator, U.S. Forestry Support Program.

Objective -Summarize the highlights of the workshop to this point as preface to work group session on recommendations.

Output
Anticipated -Reminder of the multiple and complex issues that have been raised during the workshop.

14:45-15:15 hrs. Break

15:15-17:30 hrs. **Work Groups -Short, Medium and Long Term Recommendations.**

Objective -Opportunity to identify key issues and major recommendations that have emerged during the workshop.

Output
Anticipated -Completion of Worksheets #5a, 5b, & 5c.

19:00 hrs. Farewell reception and dinner at hotel.

Friday, December 2, 1988

7:30 hrs. Breakfast

10:00-11:00 hrs. **Plenary -Summary of Recommendations** Dr. S. Chinnamani, Assistant Director General, Indian Council of Agricultural Research and Dr. Cor Veer, Rural Sociologist, FAO Regional Office for Asia & the Pacific.

Objectives -Synthesis and presentation of results of work groups.
-Discussion of recommendations.

Output
Anticipated -Set of recommendations for further consideration and a degree of consensus on what should be done next.

11:00-12:00 hrs. **Summary and Conclusions** - Dr. William Burch and Dr. Kathy Parker.

Objectives -Observations on the accomplishments of the workshop.
-Discussion of follow-up meetings.
-Discussion of workshop proceedings and other outputs.
-Discussion of logistics for participants.
-Participant evaluation of the workshop.

Outputs
Anticipated -Summary/closure of workshop.
-Completion of evaluation forms.

12:00-13:00 hrs. Lunch

(14:00-17:30 hrs. Meeting of Advisory Group in Khon Kaen)

15:00 hrs. Check out time from hotel for participants.

17:30 hrs. Transfer to Khon Kaen Airport for flight to Bangkok.

19:55 hrs. Departure time of flight.

20:40 hrs. Arrive Bangkok, transfer to Bangkok hotel, dinner.

Saturday, December 3, 1988

7:30 hrs. Breakfast/Participants transfer on their own to catch flights to their home countries.

The city of Khon Kaen, located 300 kilometers northeast of Bangkok, is situated on the gently sloping Khorat Plateau. With a population of approximately400000people, Khon Kaen stands as the largest city of Thailand's northeastern region and one of its administrative centers. The northeastern region is notable for its great ethnic, socio-economic and ecological diversity. Occupying one-third of Thailand's land area, the region contains 40 % of the country's arable land, but only accounts for a quarter of the national agricultural production due to its generally poor soils and unreliable water resources. These conditions have historically depressed the production level of rice, the staple crop, and have hampered the development of the small landowning farmers, who constitute the vast majority of the region's population. Recent pressure from a rapidly growing population has increased demand and competition for resources, which has led to accelerated degradation of the region's fragile natural balance. For example, approximately fifty percent of the Dipterocarp forests in northeastern Thailand have been cleared in the past twenty years. As a result of these pressures, there is considerable outmigration from the northeast to other parts of Thailand.

The social, environmental and developmental problems facing northeastern Thailand are being studied and addressed by the researchers at Khon Kaen University. Rapid Rural Appraisal is used as a tool to gather holistic data upon which action can be taken. Khon Kaen and northeastern Thailand, facing many of the development challenges common throughout Asia, but benefiting from Khon Kaen University's integrated approach to overcoming these challenges, is therefore a most appropriate site in which to conduct the Social Sciences in Asian Forestry Curricula Workshop.