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บทคัดย่อ

การตัดไม้ทำลายป่าในประเทศแถบเขตร้อน ส่งผลกระทบต่ออัตราการลดลงของพื้นที่ป่าไม้และความหลากหลายของชนิดพันธุ์ไม้ไม่ใช่มนุษย์ และยังส่งผลกระทบต่อเศรษฐกิจและสังคมของประเทศอีกด้วย การศึกษาวิจัยเกี่ยวกับชนิดพันธุ์ไม้ไม่ใช่มนุษย์ในเขตร้อนจึงจำเป็นต้องดำเนินการร่วมกันและรวบรวมชนิดพันธุ์ไม้เขตร้อนที่หายากและใกล้สูญพันธุ์และสามารถเจริญเติบโตได้ในสภาพพื้นที่ดินต่าง ๆ กัน ผลการวิจัยที่ได้ดำเนินการไปแล้วอาจจะมีประโยชน์ต่อหลายหน่วยงานในแต่ละประเทศ การรวบรวมข้อมูลเกี่ยวกับลักษณะชนิดพันธุ์ไม้ต่าง ๆ รวมทั้งการเจริญเติบโตและการใช้ประโยชน์ไว้ในสถานที่เดียวกันโดยใช้เทคโนโลยีสมัยใหม่จึงมีความจำเป็น ซึ่งจะเป็นหน่วยประสานงานในการแลกเปลี่ยนข้อมูลของไม้เขตร้อนและภาวะบรรณาคำนึงอีกด้วย

ABSTRACT

Deforestation in tropical countries has great impacts to forested area decreasing, species diversities and to national socio-economics. The integrated research networks on multipurposes tree species can foster network research, communication and training for the region. Network development is a time consuming and expensive process, one which demands extensive coordination and communication among interested institutions and individuals. Therefore, integrated research networks on multipurposes tree species supported by the Forestry/Fuelwood Research and Development Project can foster network research, communication and training has been set up to provide a basis and model for expanded collaboration in forestry research in Asia.

INTRODUCTION

Increases in the rates of forest denudation and the social and economic impacts of forest destruction have led to greater interest in research by national governments, regional and international organizations and the donor community. Research is seen as a means for resolving some of the serious problems of forest land management and economic development.

1/ Paper presented at Expert Consultation of the Asia-Pacific Network on Forestry Research, Bangkok, Thailand, August 22-24, 1989. Sections on network definitions and the F/FRED project extracted from MacDicken (1989).

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The increased interest in forestry research has led to a number of international meetings on the general topic of how to increase the amount and quality of research done on a wide variety of forestry-related problems. One of the strategies identified to enhance research efforts is the formation of research networks (IUFRO, 1984; Shea and Carlson, undated; Gregersen et al., 1989). Unfortunately, there appears to be little true agreement of what constitutes a network or what makes networks operate.

Networks Defined :

The often cited concept of networking is in reality a series of ideas which date from the beginnings of institutionalized science. Communication between researchers, the sharing of hypothesis, research methods, professional society meetings and cooperative research projects are common elements of "networking" which have existed in some form for centuries.

Burley (1987) defines agriculture and forestry research networks as :

"informal or formal arrangements of cooperation between institutions with similar conditions and problems but without the immediate resources for finding solutions to these problems individually."

Several common concepts of what constitutes a research network exist among forestry and agriculture researchers in Asia (MacDicken, 1989) :

1. Networks may be loosely grouped associations of researchers who divide research problems into work assignments, either formally or informally. An example of informal division of topics is the Northern Thailand Natural Resources Management Network (NORMNET), an advisory group of agency officers and researchers, whose members jointly identify and help allocate funds for research projects of relevance to the participating development agencies. The formal division of topics is found in the approach adopted by an IUFRO working group meeting

on multipurpose tree species (MPTS) research organized in Kandy, Sri Lanka, in 1984 which identified lead institutions to conduct and coordinate research on tree species or genera (Shea and Carlson, undated).

2. Networks can be groups of participants who conduct a set of centrally coordinated experiments to solve specific research problems. This approach concentrates greater resources on a well-defined problem, and is often used by international agricultural research centers to test food crop varieties (Plucknett and Smith, 1984). Rice variety trials coordinated by the International Rice Research Institute and network experiments on multipurpose tree species supported by the Forestry/Fuelwood Research and Development Project are examples of this type of network. This type of network might also be typified by the IDRC-sponsored Bamboo and Rattan Networks which conduct research projects on these species with grants provided by IDRC. These networks are coordinated

through the IDRC Regional office in Singapore.

3. Other networks are primarily communications - oriented and are comprised of groups of people who communicate regularly in areas of common interest. Organizations which produce research publications and newsletters such as the Nitrogen Fixing Tree Association (NFTA) and the Asian Forestry Education Network exemplify this type of network.

4. Some networks provide a wide range of services and support among network participants. This type of "integrated network" combines aspects of all three of the above concepts. It facilitates the training and development of network participants and includes publications and research components. Examples of this type of network are the Multipurpose Tree Species Research Network which is supported by the U.S.A.I.D.-funded Forestry/Fuelwood Research and Development (F/FRED) Project and IBSRAM, Inc. which supports research networks on soil and land management.

Reports from the Bellagio and Bellagio II meetings cite the need for any new forestry research coordinating body to support and coordinate research and provide institutional research

capacity building functions. If a network is to provide these services, then it must be structured with adequate staff and finances, which is not a trivial requirement.

THE MPTS RESEARCH NETWORK AND THE F/FRED PROJECT

The F/FRED Project is a ten-year effort funded by the U.S. Agency for International Development (USAID), designed to help scientists cooperatively address the needs of small-scale farmers for fuelwood and other tree products. The project has helped to initiate and support the establishment of the Multipurpose Tree Species Research Network which has some 25 participating institutions in 12 countries in Asia. Mechanisms for network development include scientific and organizational meetings, cooperative research projects, training, travel grants, publications and small research grants. The F/FRED project has worked with in close collaboration with Kasetsart University and a number of donor organizations in supporting network activities

The MPTS Research Network is regional, covering most of the non-Communist countries in Asia. However, it is built upon informal, national-level networks which are being established through a series of National MPTS Research Meetings held annually in most of the participating countries. A primary objective in encouraging these meetings is to provide an open forum for discussion of MPTS research issues and to provide national-level links to the regional research network. In addition, a number of countries have initiated national-level research programs on MPTS. Thailand, Malaysia and Papua New Guinea have formed national MPTS research committees and Indonesia has established a National MPTS Research Secretariat to carry-on

national level network development on MPTS.

The field operations of the F/FRED project have been largely successful in establishing the MPTS Research Network (Butterfield et al., 1988). During the first three years of network establishment most network activities have been managed by the F/FRED Coordinating Unit housed at the Faculty of Forestry, Kasetsart University in Bangkok, Thailand. However, several important sub-projects such as a national-level network of researchers working on *Azadirachta indica* and *Melia azedarach*, also initiated by the Kasetsart Univ. Faculty of Forestry, and a regional research program on the leucaena psyllid have been initiated, coordinated and managed by network participants.

The F/FRED Project has invested over US\$8.9 million over a 5-year period in helping to establish the MPTS Research Network, support MPTS research and upgrade the training of MPTS researchers. The USAID plans to provide additional funding for a

second 5-year phase of F/FRED beginning in early 1990. While details of Phase 2 of the project are not yet available, efforts to broaden financial support for the MPTS Research Network will certainly be a part of the long-term objective.

Commitments from other donors to MPTS Research Network activities have exceeded US\$ 500,000 in Phase 1. Indeed, donor and national support for network programs has been excellent, although it has always been for specific activities on a case by case basis. Participating network institutions have contributed significantly to network programs through co-financing and provision of staff and facilities.

USAID, Winrock International and the Steering and Research Committees have all endorsed even closer ties with other networks and projects working on forestry research. Proposals to modify or expand the present mandate of the MPTS Research Network could be submitted from this or other meetings for the consideration of the MPTS Research Network Steering Committee which meets again in November, 1989.

CRITICAL ISSUES

Before decisions are made to establish an international forestry research center or new research networks in Asia, the following issues should be considered.

To Network or not to Network?

While networks can effectively encourage and produce useful research results, they require a level of commitment from the participants and sponsors to long-term collaboration, often with limited funding from external sources.

Networks have the limitation of not readily being able to conduct their own research with core staff since they rarely have the research facilities and mandate that national or international research institutions have.

The following requirements have been identified in the establishment and management of the MPTS Research Network (MacDicken, 1989):

- ⊙ an active core of network participants

- ⊙ adequate management of conflicts of interest

- ⊙ flexibility of project support

- ⊙ a supportive and neutral institutional base

- ⊙ sustained, long-term financial support

- ⊙ strong scientific and professional interest

- ⊙ cooperative research activities

- ⊙ optimization of compromise

- ⊙ appropriate research funding levels

- ⊙ effective coordinating staff

- ⊙ extensive donor cooperation and coordination

The decision to create a new network or to expand existing networks in a practical and manageable way must consider these issues.

Selecting a Network Type

If the decision is to create a new network, or expand an existing network, then consideration must be given to the type of network ultimately desired. The

cost of network operations are directly related to the type of network envisioned. Given the interest in long-term training and capacity building, it would seem that an integrated network which provides research support, communications and training might be most appropriate. Yet these efforts are clearly expensive and require a great deal of effort. F/FRED employs some 25 staff members, 13 in the Bangkok office alone, and has engaged 3 part-time coordinators to support network activities. Yet even with this level of effort on the topic of MPTS research alone the project is unable to address all of the interests and expressed needs of network participants.

New or expanded networks must be carefully designed to fit the perceived needs of regional or international cooperation.

Network Focus

If a network approach is to be endorsed, then common interests must be found and a focus for network

activity defined. As noted above, networks succeed best if there is both a shared, common problem and strong scientific and professional interest in the topic. Such clear and pragmatic definition of priority topics for research has not yet been done at the macro-level by donor groups, even though a series of meetings have been convened. In perhaps the most recent update of current planning for forestry research within the Consultative Group on International Agricultural Research (CGIAR) system, Gregersen et al. (1989) summarize five priority forestry research areas for consideration by the Technical Advisory Committee :

- * agroforestry, dryland and upland watershed management
- * tree improvement of MPTS
- * utilization and marketing
- * natural forest ecology, conservation and management
- * policy and socio-economics

While there are conceivably other broad topic areas excluded above, one is hard pressed to envision institutions

which can handle such a wide range of research under any of these five general areas. The successes of the International Agriculture Research Centers (IARC) have certainly been related to the careful definition of either commodity or environmental-geographical mandates. This step has not yet been taken in defining a new international mechanism for forestry research.

The current interest in new or enhanced networks for tropical forestry research covers an extremely wide range of topics. The experience of the MPTS Research Network has been that to do more than a very superficial job on even the topic of multipurpose tree species for small farm use requires a great deal of effort.

Careful consideration must be given to the focus of new or expanded forestry research networks to ensure they are both relevant and manageable.

Participant Input

The strengthening of tropical forestry research capacity requires

strengthening and support of national research programs. However, while the need for participatory forestry has been widely accepted among forestry development workers in the field, the concept has not been utilized by international forestry research planners as they consider the future of new international institutions to help provide this support. Input to the planning process from national research programs in tropical countries has been very limited, thus reducing the chances for long-term success of these efforts.

Extensive input from national forestry research programs and meetings such as this should be sought before an international mechanism for forestry research is further considered.

Donor Coordination

International meetings have begun a dialogue among some parties interested in tropical forestry research. Yet, efforts have not yet included many of the forestry research donors with active programs in Asia. Coordination among

a wide range of donors is essential given the fact that there are limited manpower and institutional resources available for forestry research.

Consideration should also be given to the advantages of expanding an existing network to carry out the desired regional role, or to housing the

network coordinating bodies together in one physical location to increase the coordination and communication between networks. Without close communications between these networks, participants will soon be overwhelmed by the meeting and planning requirements of uncoordinated activities.

CONCLUSIONS

Networks are a reasonable mechanism for increasing the efficiency and effectiveness of forestry research in Asia. Network development is a time consuming and expensive process, one which demands extensive coordination and communication among interested institutions and individuals. Yet, it is also a mechanism which can produce sustainable long-term research capacity to produce and communicate research results.

Integrated research networks such as the MPTS Research Network supported by the Forestry/Fuelwood Research and Development Project can foster

network research, communication and training. Such existing networks can provide a basis and a model for expanded collaboration. Options to consolidate network programs should be carefully considered to avoid confusion, duplication of effort and the waste of precious time and money.

This meeting of research directors and international organizations interested and active in forestry research in Asia can and should provide clear guidance to the donor community on the desirability of additional support for forestry research networking.

LITERATURE CITED

- Burley, J. 1987. International forestry research networks objectives, problems and management. *Unasylva* 157/158, Vol. 39.
- Butterfield, S., F. Ng, C. Hatch, A. Manzardo, D. Osburn, J. Palmer. 1988. Forestry/Fuelwood Research and Development (F/FRED) Project Evaluation Report. Tropical Research and Development, Inc. Gainesville, Florida. 170 pp.
- Gregersen, H., R. de Camino, P. Oram. 1989. International and regional organizations and networks involved in tropical forestry research: A stock taking. Report prepared for the TAC.
- IUFRO. 1984. Proc. IUFRO Research Planning Workshop for Asia at Kandy, Sri Lanka.
- MacDicken, K.G. 1989. Managing MPTS Research Networks in Asia. Paper presented at IUFRO Working Party Meeting, Alice Holt, UK. April, 1989.
- MacDicken, K.G., M.R. Dove, J.L. Brewbaker and W.F. Hyde. 1986. Multipurpose Tree Species Networks for the Forestry/Fuelwood Research and Development Project. Winrock International Institute for Agricultural Development. Arlington, Virginia. 120pp.
- MacDicken, K.G. and C.B. Lantican. 1988. Resource development for professional education and training in agroforestry. Paper presented at the International Workshop on Agroforestry Education and Training. Gainesville, Florida. Dec. 5-8, 1988.
- Napompeth, B., K.G. MacDicken, M.W. McFadden and I.N. Pka. 1987. Regional Research Plan for the Leucaena Psyllid. Report No. 2. Winrock International. Arlington, VA.

- Plucknett, D.L. and N.J.H. Smith. 1984. Networking international agricultural research. *Sci.*, 225 : 989-93.
- Shea, K.R. and L.W. Carlson. Undated. Increasing Productivity of Multi-purpose Tree Species : a Blueprint for Action. IUFRO Planning Workshop for Asia, Kandy, Sri Lanka, July 16-28, 1984. USDA Forest Service. Washington, D.C. 100pp.
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