

Asia-Pacific Agroforestry Network: Lessons and Implications for Mountain Research and Development

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Abstract

Agroforestry systems have evolved over centuries through farmer experimentation and changing conditions. Today, it is a potent tool in conservation and rural development. Networks are about people and institutions. FAO has supported some 135 networks in various fields in the world. Networks show greatest effectiveness in information dissemination. International organizations that support agroforestry and community forestry networks in Asia-Pacific include ICRAF, FTTP, RECOFTC and APAN.

Since 1991, APAN has been working with partner countries and international organizations to support agroforestry coordination, information exchange, training and farmer-based field activities. The proposed APAN 21 Programme is based on a framework for analyzing farm household decision-making in agroforestry. Major lessons learned about the nature, comparative advantages and limitations of networks are presented, which may have implications for the Asia-Pacific Mountain Network.

A regional workshop held in Beijing in 1996 focused on issues of resource mobilization, cost-recovery and network sustainability. Existing networks possess limited experience on these aspects, and most are dependent on donor support. The Bangladesh National Agroforestry Working Group (NAWG) is developing innovative mechanisms to generate funds. These include: service charges on training and research services; royalties on electronic publications; and, in the future, publication fees to users and annual fees to NAWG members.

APAN Phase II funding through FAO terminated in March 1997. With support from FORDA, FAO, FTTP and ICRAF, the seventh APAN advisory committee meeting was convened in November 1997 in Bogor. The meeting revealed that network functions and activities are still continuing in member countries, albeit at a slower pace. Should funding for APAN 21 materialize, network activities can be quickly reactivated and intensified.

There are excellent prospects for agroforestry development in Asia-Pacific. But three key challenges exist: How to increase policy support at national and grassroots levels? How to improve cooperation and linkages among key agroforestry stakeholders? How to develop appropriate resource mobilization and cost-recovery mechanisms to sustain networks that support agroforestry development?

Agroforestry in Asia-Pacific: An Evolutionary Process

Agroforestry is the deliberate growth and management of trees along with agricultural crops and/or livestock in systems that are ecologically, socially and economically sustainable. More simply: *Agroforestry is the use of trees in farming systems.* Agroforestry is often integrated into community forestry, which is the self-help management of forest and tree resources by rural people for their own benefit.

Agroforestry systems have been evolving in the Asia-Pacific region since indigenous peoples shifted from hunting-gathering to domestication and cultivation of plants for subsistence. Through trial-and-error methods over time, the pioneer agroforestry farmers learned how to utilize the natural environment, sustain productivity, and achieve year-round food security through mixing of annual and perennial crops under various spatial or temporal arrangements. These extensive agroforestry systems formed the basis of sustainable, albeit subsistence-level, livelihoods.

As population densities, land pressures and more intensive cultivation increased, many of the extensive agroforestry systems, exemplified by shifting cultivation, were severely affected by shortened fallow periods. This has led to serious loss of productivity as well as soil and watershed degradation. These negative trends need to be remedied. Otherwise, many people in Asia-Pacific will be further trapped and victimized in the vicious cycle of rural poverty and resource degradation.

Inspired by indigenous knowledge about the capacity of traditional agroforestry systems to maintain productivity, and motivated by global efforts such as the United Nations Conference on Environment and Development (UNCED), agroforestry has evolved as a potent tool for integrated conservation and rural development initiatives. Since 1991, the Asia-Pacific Agroforestry Network (APAN) has been working to strengthen agroforestry technology and information exchange in order to improve the well-being of rural people, especially smallholder farm households and communities.

Constraints

There are many excellent initiatives in agroforestry within the Asia-Pacific region that have been launched by farmers, government agencies, non-governmental organizations (NGOs) and other groups. However, agroforestry development is seriously constrained by a number of factors, which need to be firmly addressed by entities such as APAN. Some of the major constraints are:

- Insufficient mechanisms for the exchange of agroforestry experiences and information among farmers, researchers, extension workers, entrepreneurs and international organizations.
- Inadequate policies, rules, regulations and incentives to encourage greater investment and farmer participation in agroforestry.
- Inaccessibility of state-of-the-art agroforestry technical information and farmer-generated knowledge among smallholder farm households and grassroots support organizations.

- Outdated and inappropriate market and price information on agroforestry products.
- Inadequate support services to stimulate and support expansion of agroforestry activities.

What is a Network?

Networks are about people and the institutions in which they work. Many international and regional organizations, as well as the private sector, are supporting networks in fields such as: rural credit, NGOs, fisheries, integrated pest management, community forestry, wood energy and agroforestry.

The Food and Agriculture Organization of the United Nations (FAO) has considerable experience in the initiation, development and support of networks. Some of these experiences and lessons learned are contained in the *Guidelines for the establishment and support of technical cooperation networks* compiled by the FAO Evaluation Service (FAO 1992). A study undertaken by the Service during 1990-91 covered some 135 networks in agriculture, fisheries, forestry and rural development supported by FAO within the framework of technical cooperation among developing countries (TCDC).

The aforementioned guidelines defined a technical cooperation network as "*.....a voluntary cooperative arrangement among institutions in two or more countries, set up for a period of at least several years, to carry out jointly certain specified activities (information exchange, research, training, exchange of personnel, etc.) for the purpose of direct exchange of relevant technologies, experience and information to address common development problem. A network must include the concept of membership which makes a tangible contribution to its programme of activities.An essential characteristic, which distinguishes networks from regional projects, is that they set out to maximize the use of indigenous expertise and resources available in the countries themselves and thus rely less on external inputs.*"

Common network activities include: newsletters and publications; seminars and meetings; joint research and studies; and joint training and study tours. Networks may also support other activities such as: exchange of experts and consultants; information on markets and food; early warning systems for drought, crops and pests; germplasm exchange; and shared databases. **Among these activities, networks have demonstrated greatest effectiveness in the area of information dissemination** (FAO 1992).

An important lesson learned relates to the required network gestation period. Network development is a long-term endeavor that requires continuing support and nurturing. The Evaluation Service concluded that: "*There are as yet no examples of networks initiated by FAO which have become entirely self-financing.*" It was found that, realistically, 10 or more years of external support are usually needed before a network could become **sustainable and self-reliant**. This can be gradually achieved by developing appropriate resource mobilization and cost-recovery mechanisms, once networks have demonstrated their ability to deliver useful services and products.

International Networks

A number of international and regional organizations support research, development and training activities in agroforestry and community forestry within Asia-Pacific. These include:

- **International Centre for Research in Agroforestry (ICRAF: HQ in Nairobi, Southeast Asian Regional Office in Bogor)**
- **Forest, Trees and People Programme (FTPP global programme based at FAO, Rome; FTPP in Asia based at RECOFTC)**
- **Regional Community Forestry Training Centre (RECOFTC, based in Bangkok)**
- **Asia-Pacific Agroforestry Network (APAN, based in Bogor)**

These four organizations collaborate on many international and regional activities that focus on training, curriculum development and information dissemination. Linkages are also being developed with many agroforestry and community forestry programmes and projects operating at the national levels. As all these activities develop, it is increasingly clear that certain basic philosophies, approaches and attitudes would have to change in order to successfully make the transition from conventional forestry to agroforestry and community forestry.

Asia-Pacific Agroforestry Network

Launched in May 1991 with funding support from the Government of Japan through FAO, the first APAN phase established a regional agroforestry network that helped to identify and support priority agroforestry activities. The 10 original APAN member countries were: Bangladesh, India, Indonesia, Lao PDR, Nepal, Pakistan, Philippines, Sri Lanka, Thailand and Vietnam.

APAN Phase II, from 1993 to 1997, is jointly funded by the Government of Japan and UNDP. The network increased to 11 member countries with China joining in 1993. With increased staff and budget, APAN has been able to intensify support for national networks, particularly for farmer and field-level activities.

During its first six years, APAN has established very active and effective regional and national networks by working closely with National Coordinators and a wide range of partners. Through partnership and co-sponsorship arrangements, APAN has been able to support a high level of agroforestry activities, well beyond the network's own core budget capacity. Excellent linkages have been developed with ICRAF, whose strategy is to link with existing agroforestry networks like APAN for greater synergy and impact. APAN has also developed close collaboration and joint activities with several regional and national networks supported by FTPP, RECOFTC, Regional Wood Energy Development Programme (RWEDP), International Institute for Rural Reconstruction (IIRR), and other partners.

Through a participatory, flexible and collaborative process, significant progress has been made in cultivating the common commitment of network members to share their

information, experiences and resources. A wide range of activities has been designed and implemented at the regional, national and grassroots levels to support:

- **agroforestry coordination:** develop mechanisms such as national working groups and networks; facilitate joint activities among network members
- **information exchange:** compile and share training and extension materials, including information kits; document indigenous agroforestry practices
- **training:** organize training courses and workshops on specific themes for different groups, including farmers, extension workers, researchers and trainers
- **farmer-based field activities:** establish on-farm demonstrations; identify “centers of excellence”; support farmer-to-farmer exchange visits and other activities

The success of network activities is largely attributable to the excellent initiatives and hard work of the APAN National Coordinators, who are responsible for developing and implementing collaborative national and field level activities. As the network grows, APAN is increasingly broadening its scope of activities to include a diverse range of partners from government agencies, universities, NGOs, farmer groups, private sector, and international organizations.

APAN Today

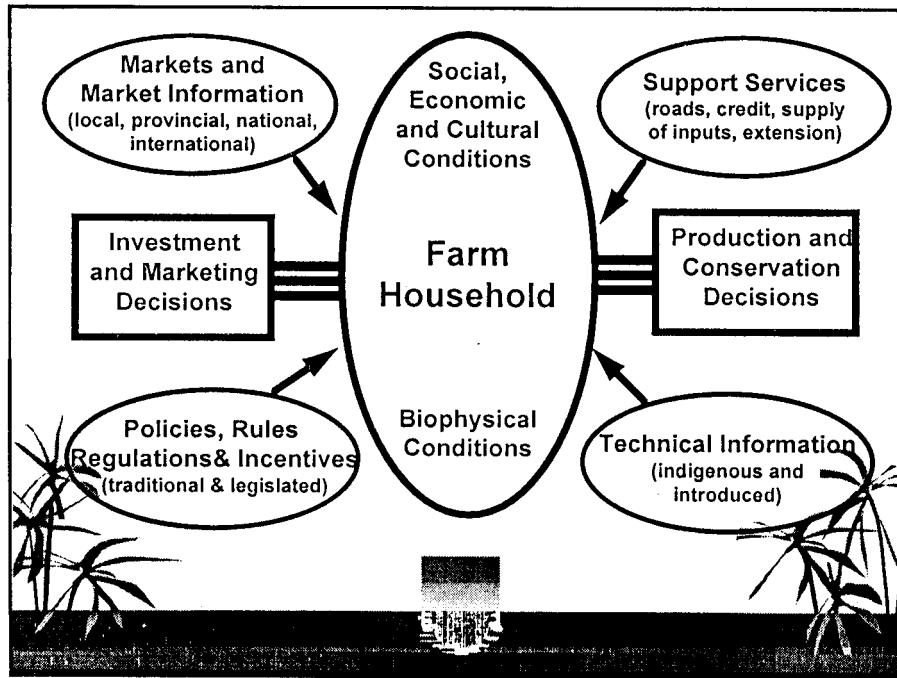
Experience gained over the past six years has allowed APAN to grow into a strong, competent and relevant regional agroforestry network that possess the following qualities:

- Strong and productive linkages with farmer groups, governments, NGOs, academe, private sector and international organizations.
- National Coordinators who exhibit high-caliber leadership and initiative, and are capable of mobilizing resources for activities that benefit participating farmers.
- Member country governments providing increasing support for national and field-level collaborative activities.
- Demonstrated ability to develop and deliver a wide range of responsive, timely and high-quality information and training services
- Forward-looking in addressing network sustainability issues and testing resource mobilization and cost-recovery mechanisms.

APAN 21

APAN would like to build upon this solid networking experience to propose a five-year ***APAN 21 Programme***. This program aims to establish the ***APAN Foundation*** as a sustainable entity, one that can respond effectively to the evolving needs of agroforestry stakeholders in the region. ***APAN 21*** also aims to ***transfer success***. This will be done by identifying and utilizing the proven talent and expertise that exist among leading farmers, government agencies, NGOs, private sector enterprises, training institutions, and international organizations working in the region.

The *APAN 21* goal is to support sustainable agroforestry investment, production, conservation and marketing activities that will result in greater benefits for farm households. This will be achieved by generating policy support, strengthening agroforestry development at the national and grassroots levels, and improving linkages among key agroforestry stakeholders. The programme is firmly grounded by a pragmatic framework that emphasizes the factors influencing agroforestry decision-making at the farm household level (see below).



Farm household agroforestry decision-making framework

The framework suggests that farmers make decisions on agroforestry investment, marketing, production and conservation based on several key on-farm and external factors. Therefore, *APAN 21* will pursue five objectives:

- To strengthen regional and national networks, and establish the *APAN Foundation* to sustain network activities and services.
- To support, through participatory processes, the development and implementation of national and decentralized agroforestry policies, rules, regulations & incentives.
- To compile and share information on agroforestry technologies, improved germplasm, research results, processing schemes and “centers of excellence.”
- To provide timely and relevant information on 1) marketing and prices of agroforestry products and 2) simple market assessment and investment feasibility techniques to increase the income of smallholder farm households.
- To strengthen the capacity of local organizations managed by farmers, governments and NGOs to 1) provide essential support services and 2) employ appraisal techniques and tools for agroforestry development.

FAO and the Government of Indonesia are continuing to seek appropriate donors for this next phase. While uncertainties exist concerning the likelihood of funding for *APAN 21*, the National Coordinators have pledged their commitment to sustain the national networks and activities, and maintain regional networking linkages to the maximum extent possible. The APAN Secretariat has been institutionalized within the Forestry Research and Development Agency (FORDA), APAN's host organization in Bogor.

Lessons Learned

Based on six years of APAN work and experience, many valuable lessons have been learned about the nature of a network, its comparative advantages and limitations, and working within the FAO system. These lessons may be useful for the **Asia-Pacific Mountain Network (APMN)** as it develops and supports its networking activities throughout the region.

The major lessons learned include:

- *Recognize and respect the basic nature of a network as a voluntary association. Collaboration cannot be forced.*
- *Develop positive dynamics among network members in order to establish trust, transparency and commitment. Good people are the most important ingredient of a successful network.*
- *Build up a network secretariat that is flexible, responsive, efficient, quick, innovative, sensitive and sensible. The network should be highly visible, reliable and consistently deliver useful services and products.*
- *Develop cost-recovery and resource mobilization mechanisms to achieve sustainability and self-reliance. Test these mechanisms at an early stage to evaluate their effectiveness.*
- *Regional and national networks can play vital roles and fill many niches that a single institution or project cannot reach. Identify and focus on these niches and gaps; avoid duplicating the work of other projects.*
- *Regional networks have inherent limitations that make it difficult to directly generate positive impact at the local site level. However, this can be done indirectly by working with and supporting effective local partners who are in close touch with farmers and communities.*
- *Network development is a long-term process. The key is to gradually build up lasting personal, professional and institutional relationships based on mutual trust and successful joint activities. Without these solid relationships, a network will not become sustainable.*
- *Human and financial resources are essential for establishing and strengthening networks. More attention must be focused on how network members themselves can help mobilize the talent and funding needed to sustain network activities, rather than be wholly dependent on external resources.*
- *Many FAO regulations and procedures act as bottlenecks to the flexibility and ability of networks to respond and deliver, which are their chief comparative advantages. FAO-supported networks must find ways and means to streamline and decentralize administrative and financial processes to enable them to*

respond to emerging needs and deliver services and products in a timely manner.

- *The concept to establish the APAN Foundation is sound.* If successful, this will be the key toward ensuring a self-reliant and sustainable agroforestry network.

Sustainability of Agroforestry Networks

During 17-19 October 1996, the *Regional Workshop on Sustainability of Community Forestry and Agroforestry Networks in Asia-Pacific* was held at the Chinese Academy of Forestry in Beijing, immediately following the Sixth APAN Advisory Committee Meeting. This workshop was organized by the Forestry & Society Network (FSN) in China and APAN, with financial support from FTTP and the Ford Foundation. It provided a unique opportunity for about 20 Chinese colleagues working in related networks to interact with the APAN National Coordinators and representatives from international organizations.

The programme included: a one-day field visit; panel presentations from 6 National Coordinators (Bangladesh, India, Indonesia, Nepal, Thailand and Vietnam) and 6 Chinese colleagues (from FSN and Sichuan, Yunnan and Jiangxi provinces); and working groups on networking strategies, constraints, opportunities and resource mobilization. Many pertinent issues and questions were raised and discussed, including:

- What types of national and grassroots agroforestry networks operate in your country?
- What are the structures of these networks? (with secretariat? informal?)
- What are their strategies and functions? (policy advocacy? extension? credit?)
- What kinds of constraints and problems are faced by these networks?
- What better opportunities and comparative advantages do these networks have over GOs, NGOs and other organizations working in agroforestry?
- What types of resource mobilization and cost-recovery mechanisms have been tried by these networks? Which mechanisms are the most successful?
- Can these networks become self-reliant and sustainable?
- What are the keys to attaining network sustainability?

While the issues of resource mobilization, cost-recovery mechanisms and network sustainability drew keen interest, there is very limited experience on these aspects within existing networks. Most networks are still largely dependent on donor support, but the workshop helped to highlight the sustainability concerns and introduce some innovative ideas.

NAWG in Bangladesh: Toward Self-Reliance

The APAN National Coordinator from Bangladesh shared the experiences of the National Agroforestry Working Group (NAWG), which was established in 1989. The Bangladesh Agricultural Research Council (BARC) provides the secretariat facilities for NAWG. Technical and financial support have been provided by Winrock International, Ford Foundation, Swiss Development Cooperation (SDC) and APAN.

NAWG has become the national forum for research, extension and training organizations who are active in agroforestry, from both the government and non-

governmental sectors. To date, 25 technical meetings have been organized by NAWG to facilitate information exchange and the development of joint agroforestry activities. NAWG has supported many activities such as: agroforestry newsletter and other technical publications; development of training modules; training courses for GOs and NGOs; seminars and workshops; study tours for professionals and policy makers; and farmer exchange visits.

Following an informal policy dialogue between the BARC Executive Vice-Chairman and the APAN Regional Coordinator in 1995, NAWG began testing various resource mobilization and cost-recovery mechanisms.

In 1996, two collaborative programmes were initiated by NAWG:

- Designing and implementing training workshop for sub-professionals of the Forest Department, under the pilot agroforestry project funded by Ford Foundation.
- Conducting contract research, with funding from SDC, on 1) growth and yield of trees grown on cropland and 2) soil fertility under cropland agroforestry systems.

Under this arrangement, NAWG receives a "service charge" of 20% of the total costs. In 1996, these service charges will generate about US\$ 5,500 for the working group. NAWG has also entered into a contract with Congressional Information Service, Inc. based in the U.S. This will lead to the electronic publication of selected NAWG publications, for which a 15% royalty will be earned by the working group (Huq 1996).

Looking ahead, NAWG plans to charge fees for its technical publications to partially recover printing costs, as well as to assess a nominal annual fee to its members. While these may not generate large revenues, they are important steps on the long road to self-reliance and self-ownership of the network.

APANAC VII

In November 1997, the seventh annual APAN advisory committee (APANAC VII) meeting was held in Bogor, with support from FORDA, FAO, FTFP and ICRAF. In spite of the termination of donor funding through FAO in March 1997, the National Coordinators reported that agroforestry development activities are continuing—albeit at a more modest pace—in APAN member countries. Several countries have institutionalized some of the national-level activities initiated during the first two APAN phases. These activities include: national agroforestry working groups or networks, information dissemination, staff and farmer training, and field demonstration plots. Since the end of Phase II, financial resources to sustain APAN national activities have declined, and low levels of support are now provided from agency budgets or other projects.

A very encouraging note is that some National APAN Secretariats have initiated innovative cost-recovery mechanisms. These measures include: selling publications; soliciting small grants from donor organizations; and charging fees for agroforestry consulting services such as conducting contract research and organizing training courses and study tours. Budget constraints have motivated greater cooperation and partnership

with a broad range of organizations sharing similar objectives, including NGOs and farmer associations.

Although many national-level agroforestry activities are continuing, the National Coordinators were frustrated because regional APAN activities could not be sustained in the absence of formal APAN support. Regional training events and workshops, technical exchanges and study tours, and regional information sharing (particularly through *APANews*, the network newsletter) have been suspended since the end of Phase II. Moreover, the group recognized new areas where national-level support is urgently needed. These emerging priorities focus on policy support, agroforestry marketing, farmer-industry linkages, and human and institutional capacity building.

The group was encouraged by reports that potential donor organizations had given favorable technical review to the *APAN 21* project document. The National Coordinators urged FAO to redouble its efforts to secure funding for the proposed third phase. Participants also welcomed news that an Agroforestry/Community Forestry Associate Professional Officer (APO) would be joining FAO/RAP in Bangkok at the end of November 1997. It was suggested that the new APO should work to revive *APANews*—with contributions from National Coordinators, ICRAF, RECOFTC and other partners—and enhance communications and information exchange among APAN National Coordinators and network members.

The APANAC VII meeting adjourned on an optimistic note, with renewed enthusiasm and commitment for continued collaboration, and positive ideas for implementation should *APAN 21* funding materialize in the near future.

What Next?

The preceding sections briefly explored various trends and prospects of agroforestry networks in the Asia-Pacific region. As we gain experience from implementing network activities, new problems and opportunities will inevitably emerge. To translate the enormous potential of agroforestry development into reality, three key challenges must be addressed.

First, there is a need to generate greater policy support for agroforestry development at the national, provincial and grassroots levels. The positive experiences emerging from China and India underscore the importance of a favorable and decentralized policy framework for enabling and promoting household and community initiatives at the grassroots level.

Second, there must be stronger cooperation and linkages among the key stakeholders in agroforestry: farmers, community-based organizations, government agencies, NGOs, policy-makers and planners, academic and training institutions, private sector enterprises and international organizations. Improved cooperation is essential for integrating investment, conservation, production, processing and marketing activities that will result in greater benefits for farmers. Moreover, improved linkages will increase the vital information and support services to farm households to enable them to make better

investment and marketing decisions, and more sustainable production and conservation decisions on agroforestry activities (Lai 1996).

Third, networks undoubtedly have important, supportive roles to play in generating favorable policy environments and fostering more cooperation and linkages among stakeholders. However, the study covering 135 FAO-supported networks in various fields revealed that 10 or more years of external support are usually necessary before a network could become sustainable and self-reliant. In an era of shrinking financial resources and downsizing of donor organizations, the challenge that confronts existing networks is how to develop effective resource mobilization and cost-recovery mechanisms. The innovative mechanisms being developed by the Bangladesh NAWG are inspiring and valuable examples of how to work toward the attainment of a self-reliant network. Likewise, the proposed establishment of an *APAN Foundation* would provide an opportunity to ensure network sustainability beyond the period of donor support.

Hopefully, many more innovative and replicable examples will emerge in the years ahead as networks develop their capabilities to provide much-needed services and products in support of agroforestry development in the Asia-Pacific region.

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