

*Fourth International Workshop on Model Forests for  
Field-level Applications of Sustainable Forest Management  
23-27 October 2000, Yamanashi Prefecture, Japan*

## **The FAO/Japan Trust Fund Regional Model Forest Project**

By

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### **Introduction**

The *Regional Project on Assistance for the Implementation of the Model Forest Approach for Sustainable Forest Management in the Asia Pacific Region (in short, the Regional Model Forest Project (RMFP), GCP/RAS/177/JPN)*, was launched in February 2000 and will run for 30 months, i.e. until July 2002. It is funded (USD1,580,145) by the Government of Japan and executed by the Food and Agriculture Organisation (FAO) of the United Nations. It has four participating countries (China, Myanmar, Philippines & Thailand) and is based at the FAO Regional Office for Asia and the Pacific in Bangkok, Thailand.

### **Genesis of RMFP**

In response to global concern over the continuing loss and degradation of tropical forests, a number of national and international initiatives have been undertaken to help promote and support sustainable forest management (SFM). At the 1992 United Nations Conference on Environment and Development (UNCED, or Earth Summit), the need to reconcile the productive functions of forests with their protective, environmental and social roles was strongly emphasised, and SFM was seen as one of the most important contributions that the forestry sector can make to sustainable development (FAO 1998). It is now more widely appreciated that sustainable development is unattainable without the sustainable management of forests (Poore et al, 1998).

One post-UNCED initiative was the Canadian-sponsored International Model Forest Network (IMFN), established in 1994 to foster cooperation and collaboration in the advancement of SFM through a world-wide network of landscape-level working model forests (*Johnson 1998*). This initiative was built upon the Canadian Model Forest Program which was established in 1991 to “*address the challenge of balancing the extensive range of demands being placed on the forests today and the needs of tomorrow’s generations*”. Under this Program, a network of 10 MFs was created in Canada to facilitate the development of field-level capacity across a range of ecosystems and jurisdictions to address this challenge. The MFs would work individually toward local solutions to SFM, and also as a network to share ideas, exchange information and experiences, and collaborate to create efficient and innovative ways to deal with areas of mutual interest such as ways to develop local level indicators of SFM (Canadian Forest Service 1999). They will also serve as demonstrations of partners with a diversity of values working together to achieve

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SFM. The IMFN, administered by a secretariat (IMFNS), is now a growing network with 26 sites established, or in advanced stages of development, in 11 countries, and several additional sites in the planning stages (Besseau 2000).

Since 1997, the Government of Japan has played a leading role in Asia in discussions on MFs. In 1998, the Forestry Agency of Japan, in collaboration with the IMFNS and FAO, launched a series of *International Workshops on Model Forests for Field-level Application of SFM*, to be held between 1998 and 2000 that,

- *identified the roles and expectations of model forests, and how they can contribute to the goals of SFM at the field or landscape level* (March 1998 in Tokyo);
- *provided a field level case study of the model forest approach, and proposed practical options for promoting model forests, enhancing international co-operation and feeding back the results to the national land-use policy processes* (March 1999 in Mie); and
- *focused on enhancing international co-operation, and developing ways to feedback results from model forests to overall land use policies* (October 1999 in Gunma).

The fourth and final workshop in the series, where this paper is being presented, is being held from 23-27 October 2000, in Yamanashi, Japan, and will focus on *feedback (from field-level model forests) to land use policy*.

Recognising that a number of countries in the Asia Pacific region have begun, or expressed interest to begin, developing model forests for sustainable forest management and the need to strengthen national forest programmes, the Government of Japan decided to fund a regional project on *"Assistance for the Implementation of the Model Forest Approach for Sustainable Forest Management in the Asia Pacific Region"* (FAO 1999).

This was very timely, as the importance of developing working partnerships among all stakeholders if we are to achieve the sustainable use and management of the forest and land resources has become more apparent and urgent in countries in the region. The overlooking or under-appreciation of the diverse needs, priorities and values of all the stakeholders, including forest-dependent and other local communities, and "non-forest sector" users, have led to serious conflicts between such communities/sectors and the respective "authorities", with serious adverse social, economic and environmental impacts in many countries.

### **What are Model Forests?**

The word "*model*" means, among other things, "*an example for imitation or emulation*", and therefore, the term "*model forest*" or "*model forest approach*" will mean different things to different people, depending what one wants to emulate or imitate.

However, the "*model forests*" and "*model forest approach*" being promoted by the Regional Model Forest Project have more specific meaning. They owe their origin to the *Model Forest* (MF) concept that began in Canada in the early 1990s in response to two major challenges: first, was the intense conflict in the forest sector between forest managers and those outside of traditional management structures. It was recognized that many dissenting views on forest management had merit but no meaningful access

to the decision-making processes, while at the same time there was no obligation on the part of those with the authority to consult beyond their limited circle of traditional planners and decision-makers. Second, was that sustainable forest management (SFM) remained largely an abstract concept, a good idea without practical expression (Besseau *op cit*).

Among the fundamental attributes of such MFs are (IMFNS 2000),

- i. *Partnerships*, which must include key land users and other stakeholders represented in the geographic region (e.g. industry, community groups, government agencies, NGOs, academic and educational institutions, national parks, private landowners, and others as appropriate), i.e. the partnerships must be local and inclusive – no agency or player can achieve SFM alone;
- ii. *Commitment* of all partners to SFM.
- iii. *Magnitude*. The land base (usually based on watershed boundaries) must be large enough to incorporate the full range of forest uses and values.
- iv. *Scope of activities* undertaken should reflect the realities and needs at the local and national levels.
- v. *Organizational and governance structure* in which partners with different values can work constructively together. The management process must be participatory and transparent, and support consensus building among the partners.
- vi. *Commitment to build and share* a knowledge and experience base within the partnership and with others across the network of MFs.

The requirement that MFs be large enough to incorporate the full range of forest uses and values, and be based on watershed boundaries, means that we are moving beyond the traditional “forest” boundary into integrated land use. This distinguishes it from most other “model forest”, and even sustainable forest management, initiatives which tend to be more narrowly “forest-focussed”. This MF approach emphasises the inter-dependence of all the components of the broader eco-system, and is consistent with the increasing appreciation (mentioned earlier) that the sustainable management of forests must be an integral part of sustainable development.

One of the primary aims of the model forest process will be the development, implementation and monitoring of mechanisms to effect partnerships among the stakeholders that will enable their many and diverse needs, priorities and values to be heard and considered. *It is not expected that existing decision-making processes or prerogatives will be changed immediately, but it is hoped that over time, as the partnerships develop, the decisions taken will take into serious consideration, and balance, the needs, priorities and values of all the stakeholders. It is expected that the experiences and processes developed in each model forest area will serve as working demonstrations that can be emulated elsewhere in Project countries.*

### **Rationale for Regional Model Forest Project**

Each participating country in the RMFP was selected for its particular strengths in specific aspects of the MF process. China began the development of the Lin’an MF in 1997, with the assistance of the IMFNS. Myanmar began to develop a “model forest” at Pauk-Khaung Township in 1999 with the assistance of the Japan International Forestry Promotion and Cooperation Centre (JIFPRO). Thailand has begun the process of developing a “model forest” at Ngao Demonstration Forest with the assistance of the International Tropical Timber Organisation (ITTO). Although the

Philippines had not yet begun to develop a “model forest”, its decision to adopt a Community-Based Forest Management Strategy, as well as an ecosystem approach to land use management, is consistent with the model forest concept, and they had expressed a strong interest to select a suitable area to develop into a model forest area with the assistance of the regional Project.

The proper implementation of these initiatives will require strong government commitment and significant resources. Whilst the former has been given, the resources that can be provided by governments may be more limiting. This latter short-coming will be addressed by facilitating close cooperation and collaboration among the country initiatives and with related on-going regional and international initiatives (e.g. FAO on related initiatives in the region and elsewhere; IMFN on model forests in Project countries as well as from other countries; ITTO and CIFOR on C&I and model forests; RECOFTC on various community-based initiatives and training, etc), so that ideas, information, experiences and expertise can be shared, unnecessary duplication avoided, and consistent approaches (e.g. definitions, criteria/attributes) used; and by adopting a collective and coordinated approach to seeking and securing additional resources for the fuller implementation of the respective model forest initiatives.

Two key aspects of the RMFP are,

- i. the implementation of the model forest project in each country is the responsibility of the respective national agency, and the role of the regional project will be primarily to assist in these national initiatives through the provision of regional training opportunities, technical support, (limited) resources (funds, specialists), information and experience from other Project countries and elsewhere, and assistance in securing additional resources from donors and other agencies for the implementation of their model forest activities, and
- ii. each MF will be developed at its own pace, recognising that there is no single model and no fixed activities for MF development, and that the prevailing conditions in each country are unique, even though the MF framework is common.

## **Objectives**

The *Development and Immediate Objectives* of the RMFP are shown in the Project Brief in *Annex 1*.

## **Selection of Model Forests in Project Countries**

In addition to the six fundamental MF attributes mentioned above, the following were also considered in selecting or confirming the sites for the model forests in Project countries,

- voluntary participation of stakeholders. Not all stakeholders may want to participate at the beginning, but the process should go ahead with a core group, which should increase in number as the benefits of the MF initiative are demonstrated.
- to demonstrate appropriate best practices and processes for operational scale SFM.
- be replicable, adaptive and responsive to continuous, long term monitoring and improvement.
- be used for research, training, education, capacity building and technology transfer.
- to develop simple and practical criteria and indicators at the project level for assessing the relevance and consistency of action taken, and for tracking progress towards SFM. Common C&I will enable comparison among Project countries, and

- to provide feed-back into national forest and land use planning and policy processes.

Brief profiles of the model forests selected in the four Project countries are given in *Annex 2*.

Although the approaches to be used in the development of the four model forests may be similar, the primary or underlying purpose may not be the same. In the Linan MF, the primary purpose is the consolidation, improvement and sustainability of the expanding NWFP-based economy achieved over the last ten years or so. In the Pauk Khaung MF and Ngao MF, the primary purpose is essentially to effect a sound and practical land (including forest) use system, to address the perennial problems of encroachment of forest land by shifting cultivators, over-intensive or illegal logging, conflicts over land use policy, and between forest authorities, industry and local villagers/forest-dependent communities. In the Philippines, the primary purpose is to effect optimal and sustainable forest (including timber) use and management within a broader bio-diversity conservation context.

### **Regional Activities**

These have been focussed on establishing the regional project office, organising a regional inception workshop, assisting Project countries in their establishment activities, providing training opportunities for participants from Project countries, establishing contact with current and potential donors and collaborators, and publishing the quarterly Project newsletter.

The main monitoring and evaluation mechanism of the RMFP will be through the Project Steering Committee (PSC), which had its first meeting in May 2000 in Linan, China. The regional inception workshop was held in conjunction with, and just prior to, the PSC meeting. The 2nd PSC meeting, also with a regional workshop just prior to the meeting, will be held in February 2001 in Lampang, Thailand (near the Ngao MF site). The 3<sup>d</sup> and 4<sup>h</sup> PSC meetings will be in October 2001 and June 2002 respectively at/near the Pauk-Khaung MF in Myanmar and the Ulot Watershed MF in the Philippines (the actual location for these last two PSC meetings will be decided later).

### **Project Country Activities**

As the MF concept is relatively new to all Project countries, except perhaps China, much of the first year has been spent on establishing the groundwork, e.g. identification of stakeholders; formation of national and local level partnership groups; discussion of stakeholders' activities, needs, priorities, aspirations and ideas; preparation of work plans; establishment of MF field office; assignment/securing of resources; development of partnership working arrangements; collection of baseline data on the MF area; awareness and education campaigns; etc. National inception workshops have been held in the Philippines and Myanmar, and will be held in November in Thailand. From year two onwards, more attention and priority will be given to field-based activities.

### **Some Useful Lessons Learnt from Lin'an MF**

Although the Lin'an MF is only about three years old, it is nevertheless the "oldest" and most experienced of the four MFs being assisted by the RMFP. Its experiences

have produced some lessons (RMFP 2000) that may be useful to the other Project countries, e.g.

- a successful model forest needs to have a success to focus on in order to energize the MF project. In the case of the Linan MF, it was the successful shift from a declining timber-based economy to a growing NWFP-based (in particular bamboo timber/shoot production and processing) economy, achieved over a number of years since the late 1980's.
- eco-tourism also has high potential because of the natural scenery and many historical/cultural relics, and the short distance to major population centres (e.g. Shanghai, Hangzhou). Over 1 million tourists visited the county in 1999. The first eco-tourist park was developed in 1998.
- however, even successes have their cost which must be addressed, e.g.
  - the economic value of bamboo has led to forest degradation in some places because of conversion of natural forest to bamboo plantations on hilly slopes. The issue of natural forests versus bamboo plantations on steep slopes, and the monitoring and evaluation of the environmental impacts of bamboo monoculture plantations need to be addressed urgently.
  - the longer term environmental, social and other impacts of eco-tourism development need to be carefully evaluated and addressed. But there is a lack of experience and expertise in this field.
- markets should be developed before embarking on the production of commodities (e.g. bamboo shoots).
- partnerships should include a wide range of agencies and people, including the private sector.
- networking should be developed not only among the stakeholders within each MF, but also with other national, regional and international initiatives and networks.
- creating a model forest requires taking the time to explain the concept to stakeholders: what the MF is, its attributes and guiding principles, as well as its voluntary nature.
- although a Partnership Committee, with 28 partners, has been formed, very much more needs to be done, e.g. strengthening the partnerships, identifying and implementing priority activities (e.g. participatory M&E, local level C&I, forest protection and conflict management).
- lack of funds, technical/scientific information and access to new technologies were constraints in the model forest area. Networking and sharing of information and experience can help address some of these constraints.

## **Opportunities and Constraints**

### *Constraints*

Among the constraints encountered are,

- concept of *model forest approach* is relatively new to the region and to Project countries, and will need time to be properly and more widely understood, appreciated and effected.
- people participation programmes started actively only a few years ago in some countries (e.g. Myanmar, Thailand).
- limited experience among officials in encouraging rural people in participatory forestry (except perhaps Philippines and China?).
- policy conflicts over land use and management.
- inadequate resources and capacity.

### *Opportunities*

Among the opportunities encountered are,

- concept of *model forest approach* is consistent with increasing global awareness and acceptance of importance of ecosystems, landscape or integrated approach, and active public/stakeholders' participation, in forest and land use and management.
- complementarity of knowledge and experiences in the four Project countries, e.g. in participatory processes and community-based forest management in Philippines; in successfully shifting from timber-based to NWFP-based local economy in China; that can be usefully shared.
- linkages with other relevant donor-assisted projects (IMFNS-supported MF initiative in Linan MF, China; with JIFPRO-supported MF development initiative in Myanmar; with UNDP/GEF-supported Bio-diversity Conservation Project in Philippines; and with ITTO-supported "MF" development project in Thailand) to enhance effectiveness of available resources.
- willingness of other agencies to collaborate with RMFP activities, e.g. FAO, IMFNS, USDA Forest Service, INBAR, CIFOR, etc, in the development of MFs.

### **Next steps and Feed-back to Policy**

Field-level (i.e. operational scale) demonstrations of sound (i.e. successful) integrated land use are the most effective means of influencing policy on land use and management at all levels. The model forests being developed with the assistance of the RMFP and other collaborators are aimed at providing such field-level demonstrations.

However, the approach being used (i.e. through participatory, locally based, inclusive partnerships of all stakeholders on large watershed-based areas) to develop these model forests are processes that will require time and resources to build and sustain. Therefore, as expected, the initial progress in the four MFs have been somewhat slow. As the MF approach concept is now much better understood and appreciated, the next 21 months will focus on assisting Project countries to build a sound framework so that the MF processes can continue, even after the RMFP ends, to ultimately provide operational scale outputs to feed back into forest and land use policies.

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## **Annex 1. Regional Model Forest Project Brief**

<p><b>Title :</b> Assistance for the Implementation of the Model Forest Approach for Sustainable Forest Management in the Asia Pacific Region (GCP/RAS/177/JPN).</p> <p><b>Project countries:</b> China, Myanmar, Philippines, Thailand.      <b>Duration:</b> Feb. 2000 – Aug. 2002 (30 months)</p> <p><b>Donor:</b> Government of Japan.      <b>Budget :</b> USD 1,580,145</p> <p><b>Executing agency:</b> Food and Agriculture Organisation (FAO) of the United Nations.</p>			
<p><b>Development Objective:</b> Strengthened national framework and capacity in Project countries to develop and implement national forest programmes, and appropriate national forest policies for sustainable forest management and integrated land use.</p>			
<p><i>Immediate Objective 1</i> To strengthen the policy framework for the development of national forest programmes for SFM in Project countries.</p> <p><i>Immediate Objective 2</i> To facilitate the development of field-level model forests in Project countries.</p> <p><i>Immediate Objective 3</i> To strengthen national and local capacities in appropriate land and forest use practices consistent with SFM.</p>	<p><i>Immediate Objective 4</i> To strengthen local, national and regional capacities to facilitate or enhance the flow of information, experiences and technologies on SFM.</p> <p><i>Immediate Objective 5</i> To facilitate collaboration with other agencies or programmes, and mobilisation of resources at the local, national, regional and international levels for the implementation of Project activities in particular, and of MF/SFM practices in general.</p>		
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## Annex 2. Model Forest Project Profiles

### Project Profile - Lin'an Model Forest, China

**Country:** People's Republic of China  
**Location:** Lin'an County, Zhejiang Province  
**Area:** 3,126.8 km<sup>2</sup>, with 2693.3 km<sup>2</sup> 86% hilly.  
**Topography:** Narrow E-W strip. Lowest point 9m asl in E, highest 1,787.4m asl in W.  
**Climate:** Subtropical monsoon. Annual rainfall 1350~1400 mm. June - rains. Sept. - typhoons.  
**Geology/Soils:** Six categories of soil. Red soil has widest distribution (59%).  
**Population:** 510,300, density 163/km<sup>2</sup>, growth 1.21%. Rural popn. 439,100, or 86.0% of total.  
**Land tenure:** State and collectives are owners of all land. Right of utilization is granted and leased. Cultivation rights recognised in agriculture.  
**Infrastructure:** 39 towns & townships, 661 administrative villages. 3 colleges & technical schools. 1,487 km of highways to 652 villages, or 98.6% of total villages.  
**Per capita income for farmers:** 4,199 Yuan.  
**Stakeholders:** Partnership committee formed in 1999 with 28 partners, with Lin'an Forestry Bureau, Zhejiang Forestry College, Chinese Academy of Forestry as core partners.  
**Natural resources:** Forest land 238,700 ha (76% of total land). *Fauna:* 2,315 species with 36 protected spp. *Flora:* 3,000 species with 35 protected spp.  
**Water resource:** 2.663 billion m<sup>3</sup>. Source of water for Tai Hu Lake.  
**Mineral Resources:** Over 40 kinds of metal and nonmetal minerals, mostly sodium-base bentonite,

fluorite and tungsten.  
**Tourism resources:** Cultural relics, historical interests and natural scenery (mountain peaks, forests, lakes, springs, caves, temples, tombs).  
**Other main projects:** World Bank afforestation loan; bamboo industry devt; 100km green corridor; comprehensive forestry devt; forest protection and management; public welfare forest biology; IDRC "Integrated Farm Forestry Programme"; IDRC-CIFOR "Socioeconomic Approaches to Reclaiming Degraded Lands".  
**Main problems:** adverse ecological impacts of bamboo monoculture & ecotourism inadequately addressed; inadequate information documentation & dissemination; lack of updated scientific & technical information & facilities; lack of funds.  
**MF priority activities:**

- Improve partnerships.
- Pilot projects on ecotourism research and improvement; policy review; watershed management; incentives; M&E, etc
- Develop local newsletter and web-site, and facilitate information exchange..
- Demonstration sites for NTFPs including bamboo (for fresh and dried shoots), hickory, chestnut, ginkgo and alpine flowers.
- Provide training in sustainable forestry development using training classes, TV broadcasts and lectures.

### Project Profile - Pauk-Khaung Model Forest, Myanmar

**Country:** Union of Myanmar  
**Location:** Pauk- Khaung township, Pyay District, Bago Division.  
**Area:** 129,965 ha  
**Topography:** Elevation 100-600m, undulating with gentle slopes.  
**Climate:** Annual average rainfall 1,170mm, usually not exceeding 1,270 mm.  
**Geology/Soils:** Sandy to clayey soils common, with alluvial soils in valleys.  
**Vegetation:** Mixed deciduous ft, moist ft with bamboo, indaing, scrubland, grassland, bamboo, shifting cultivation, permanent agriculture.  
**Population:** 108,732 persons in 21,746 households and 206 villages in 1998. Over 80% are rural.  
**Land tenure:** State is sole owner of all land. Only right of land use is granted and leased. In agriculture, cultivation rights recognised, but not transferable without govt permission.  
**Infrastructure:** 2 irrigation dams, Bago-Yoma Crossing Road, electricity power station, township-level hospital, 16 village health care centres, high, middle & primary schools. Sawmills, sugar mill, 2 breweries & 11 cooking oil mills.  
**Per capita farmers' income:** 60,000 Kyats (about USD170).

**Stakeholders:** Includes Forest and other Govt Dept, NGOs, local villages and communities.  
**Forest resource:** Mixed deciduous ft (best natural habitat for teak) 50,622 ha (39% of total area), moist ft with bamboo 21,907 ha (17% of total area). Includes 15,204 ha of forest plantations.  
**Water resource:** 6,863 ha (5.3% of total area), with 3 dams.  
**Tourism resource:** Natural and planted teak fts., ancient city site, culture and tradition of Karen and other minorities in Bago-Yoma ft. area.  
**Other projects:** Apart from Forest Dept, the Myanmar Timber Enterprise, Agric, Irrigation, Veterinary, Livestock Breeding & Fisheries Depts., local communities & administrative bodies and NGOs are working in the area. JIFPRO began supporting the MF project in 1999.  
**Main problems:** Shifting cultivation, migration and resettlement, firewood cutting, law enforcement.  
**MF priority activities:**

- Dissemination of MF concept and approach to all stakeholders.
- Establish national and local partnerships committees.
- Management level forest inventory.
- Capacity building in community and agro-forestry.
- Land use assessment.
- Improve farmers' quality of life.

## Annex 3. Model Forest Project Profiles.

### Project Profile - Ulot Watershed Model Forest, Philippines

**Country:** Republic of the Philippines  
**Location:** Samar Island, eastern Philippines.  
**Area:** 86,514 ha  
**Topography:** Moderately to steeply sloping, with elevation of 100-400m asl.  
**Climate:** Wet season Aug-Feb, “dry” season Mar-Apr. Temp. 24°-32°C. Humid.  
**Geology/Soils:** Diorite and granitic intrusives, etc. to S. Siltstones, sandstones, etc to E. Clay to clay loam soils..  
**Vegetation:** Closed lowland dipterocarp ft. (18%), open and semi-closed secondary ft. (46%), brushland and cultivated areas (22%), private land (14%).  
**Population:** 12,632 persons in 2,223 households and 23 forest-edge communities. Population growth under 2%.  
**Land tenure:** 86% state-owned and 14% privately owned. S.I.F.R. proclaimed under PP No.744 in ‘96.  
**Infrastructure:** Accessible by road through Paranas-Taft Highway and new south coastal road. Interior reached by Ulot & Can-avid rivers, or hiking along foot trails. MF Project area under 5 municipalities and 2 provinces.  
**Per capita income:** Av. monthly household income USD65 to 99, mainly from farming/shifting cultivation.  
**Stakeholders:** DENR & other Govt. Depts, NGOs, forest-edge and other communities, UNDP/GEF SIBP staff.  
**Forest resources:** 15,300 ha protected closed lowland dipterocarp ft.; 39,500 ha open & semi-closed secondary ft.; 18,700 ha brushland & cultivated areas (buffer zone); 13,014 ha private land. S.I. is one of 18 Centres of Plant Diversity and Endemism in country, with 885 flowering

plant spp., (406 endemic), 197 bird spp., 39 mammal spp., 25 reptile spp., 12 amphibian spp. recorded.

**Water resources:** Third largest of 11 major watershed areas on Samar island. One major river (Ulot/Can-avid) system with outlet in eastern S.I.

**Tourism resources:** Nature-based attractions. Two natural spring baths for being developed ecotourism.

**Other projects:** 360,000 ha SIFR is site of 8-year DENR/UNDP/GEF S.I. Biodiversity Project (SIBP). 2 DENR, 1 NGO community f’try projects; 5 integrated social f’try projects; 1 DENR-SIBP-NGO ft. use/food security study; Ph’pines eagle sanctuary.

**Main problems:** Civil unrest; conflicting policy interests in logging, mining, biodiversity conservation; fragmented implementation of existing projects; lack of funds to address these issues, institutionalise best practices, and improve SFM guidelines & policies.

#### MF priority activities:

- Dissemination of MF concept and approach to all stakeholders.
- Preparation and implementation of integrated land use plan.
- “Integration” of POF and other projects.
- Development/strengthening of partnerships and participatory processes.
- SFM best practices demo/documentation..
- Capacity building & institutional strengthening.

### Project Profile - Ngao Model Forest

**Country:** Thailand  
**Location:** At watershed of Ngao River, Lampang Province, about 600 km north of Bangkok..  
**Area:** 175,159 ha  
**Topography:** Mountainous with intercepting plains and valleys. Elevation 200-1,300 m asl.  
**Climate:** SW and NE monsoons. Av.temp. 25.6°C; monthly av. 19.3°C in Dec. and 30.2°C in Apr. Ann. aver. rain 1,117.3mm.  
**Geology/Soils:** Recent alluvial and old alluvial terraces, from original limestone and sandstone.  
**Vegetation:** Evergreen (*Anisoptera*, dipterocarp spp, 2.4% of area), mixed deciduous (*Tectona grandis*, *Xylia kerrii*, *Dalbergia ovata*, 44.5%), dry dipterocarp ft. (dipterocarp spp., 13.8%), teak ptns (4.0%), non-ft (34%, with 28% shifting cultvn).  
**Population:** About 48,000 persons in 5,170 households and 62 villages. Local people mostly in lowland area along main rivers; hill tribal groups scattered around mountainous area.  
**Land tenure:** About 80% of area State-owned, 20% privately-owned. 40% of area under 2 national parks.  
**Infrastructure:** Traversed by national highway no.1. and provincial highway no. 103.  
**Per capita income for farmers:** Mainly from agric. NTFP-gathering impt. subsistence activity. Recent survey showed 28% with savings; 59% in debt.  
**Stakeholders:** Includes Govt. (forestry and non-

forestry sectors), NGOs, land owners, local villagers, forest dependents and other resource users.

**Forest resource:** Mixed deciduous ft (77,894ha) dry dipterocarp ft (24,191ha) and teak ptns (7,052ha). 1987 survey estimated over 61 bird spp. of 31 families. Serow, bears, wild pigs, wild cats, barking deer, civets, monkeys, squirrels reported by villagers.

**Water resource:** Includes three main rivers all draining into Mae Yom, the main river in N.Thailand.

**Tourism resource:** Limestone caves, ancient paintings on limestone, old teak trees and plantations.

**Other projects:** ITTO MF/SFM & SFM monitoring projects. RFD watershed rehabilitation, teak improvement & ptns., national park, arboretum, elephant care center, UNESCO Biosphere Reserve, community forestry center, etc.

**Main problems:** Encroachment, illegal logging, over-extraction of NTFPs, conflicts between forest managers and local villagers.

#### MF priority activities:

- Dissemination of MF concept and approach, and SFM to all stakeholders.
- Preparation and implementation of MF management plan and 5-year working plan.
- Development/strengthening of partnerships and participatory processes.
- Demonstration and documentation of sustainable livelihoods and income-generating activities, and

### ***Annex 3. Model Forest Project Profiles.***

SFM “best practices”.

- Capacity building & institutional strengthening.