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SYMFOR

Supporting sustainable and equitable management of forests

The development of SYMFOR¹ provides new knowledge, tools and skills to support local initiatives in developing countries to improve the management of forests by forest managers for industry and local communities. This issue of the SYMFOR newsletter describes the development of a version of SYMFOR for Guyana and training workshops to support the uptake of the SYMFOR framework for yield regulation pilot studies in Indonesia and Guyana.

Some of our new partners need to make forest management decisions, but do not yet have access to the data to utilise tools such as SYMFOR. For this reason we are also working with MYRLIN (<http://www.myrlin.org>) a yield regulation toolbox developed by the University of Oxford for use in situations where data are limited. A combined approach utilising SYMFOR and MYRLIN is being applied in yield regulation pilot studies in Guyana and Indonesia.

The development of SYMFOR and MYRLIN has provided tools to assist decision-makers and policy-makers for forest management. Major challenges for the implementation of effective systems of yield regulation still remain in most tropical countries because of the lack of incentives for sustainable management of forests and the prevalence of forest piracy. The FRP is now developing proposals for a cluster of new research projects that will build on the successes of our previous work to address these challenges. The FRP proposes a cluster of research supporting yield regulation for multiple objective forest management. A description of the proposed MOFORM cluster is included in this newsletter and more information is available from the website <http://www.moform.org>. We would welcome comments about the MOFORM cluster and expressions of interest from groups interested in becoming involved in research initiatives or the dissemination and uptake of research outputs.

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¹ The development of SYMFOR has been supported since 1997 by the Forestry Research Programme (FRP) of the UK Department For International Development (DFID).

Ecological Models for Guyana

By Paul Phillips (University of Edinburgh)

The first versions of the SYMFOR framework contained an ecological model based on data from lowland Dipterocarp forests of East Kalimantan in Indonesian Borneo. The application of the framework in other regions requires the development and calibration of an ecological model for that region. This article describes the development of ecological models for two contrasting forest types in Guyana.

Models have been developed for these two forest types:

The **Pibiri model** is based on data from permanent sample plots established by the Tropenbos Guyana Programme in a concession run by Demarara Timbers Limited (DTL). The data come from 15 sample plots, each of 1.96 ha area in a forest dominated by *Chlorocardium rodiei* (Greenheart), *Lecythis confertiflora* (Wirimiri), *Tapura guianensis* (Waiaballi) and *Swartzia jenmanii* (Parakusan).

The **Barama model** is based on data collected by the Edinburgh Centre for Tropical Forests (ECTF) in a concession run by the Barama Company Limited. The forest is dominated by *Eschweilera sagotiana* (Black Kakaralli), *Licania guianensis* (Kauta), *Pentaclethra odorata* (Trysil), *Alexa* sp. (Haiariballi), *Protium dacandrum* (Kurokai), *Catostemma* sp. (Baromalli), *Tovomita* sp. (Awasokule) and *Sterculia exsucca* (Black Maho).

The development of the models has been completed and documented. A description of the Pibiri model is available as a SYMFOR technical note.

<http://www.symfor.org/technical/pibiri.pdf>

A description of the Barama model will be published later in 2002. Both models are included in the current version of the SYMFOR framework that may be downloaded from the SYMFOR website.

The models for the Pibiri and Barama forests will be used in yield regulation pilot studies with partners in Guyana during 2001 and early 2002. The Barama model will be used by staff at the Guyana Forestry Commission (GFC) in conjunction with the MYRLIN toolbox for yield regulation using limited information (MYRLIN, <http://www.myrlin.org>). Results from these studies will be presented to a range of stakeholders in Guyana in March 2002. The Pibiri model will be used in ongoing studies by the GFC in conjunction with the Tropenbos Guyana Programme and the University of Utrecht in the Netherlands.

SYMFOR Training Workshop Bogor Indonesia, February 19-23, 2001

By Paian Sianturi (IPB Bogor) and
Paul Phillips, (University of Edinburgh)

This training workshop aimed to build on previous activities that had promoted the application of SYMFOR to a wide range of potential users in Indonesia. These had generated demand for applications to support policy and decision makers in Indonesia, but application had been limited by the lack of appropriately trained staff to use yield regulation tools such as SYMFOR. The February 2001 workshop specifically aimed to train a set of local trainers to assist in the application of SYMFOR in Indonesia.

Eight participants attended the workshop representing a range of organisations that support the implementation of forest management in Indonesia. These included universities (4), private companies (1), state-funded research organisations (2), and the national forestry training centre (1). The course was structured to give participants the opportunity to further develop their own skills in the application of yield regulation tools, whilst learning how to train others in the future. By the end of the workshop, participants were able to analyse data, apply SYMFOR to simulate forest growth and management treatments and run their own training courses for potential users.

The participants were asked to identify requirements for future training events. The highest demand was for educational materials and associated training describing forest ecology, management options and basic statistical techniques customised to support forest management in Indonesia. These themes will be considered under the MOFORM cluster of research activities being proposed by the DFID Forestry Research Programme and the Indonesian multi-stakeholder KKIP initiative (see KKIP article in this newsletter).

The participants left with plans to use their newly acquired skills for the application of SYMFOR to forest management and to train others in the use of SYMFOR. The workshop highlighted deficiencies in the Indonesian forestry education system: most notably in data analysis, data manipulation and the concepts of growth and yield and general forest management. Plans exist in the KKIP programme to address these deficiencies.

KKIP MULTI-STAKEHOLDER PROJECT IN INDONESIA

By Helmayetti Hamid (KKIP)

The Indonesian KKIP consortium (previously KDIP) links several NGOs, universities and government departments, who share an interest in developing approaches to improve forest management through the effective participation of a wider range of stakeholders.

The KKIP consortium is founded on the belief that a multi-stakeholder approach to forest management is more likely to lead to sustainable and equitable forest management. The great challenge for the group is to promote a process that promotes participation of new players in forest management, such as local communities, in such a way that improves local livelihoods, increases equity and helps to resolve conflict between groups.

Planning for the initial activities of the consortium is being supported through a grant from DFID's Indonesian Multistakeholder Forestry Programme (MFP). The concept for KKIP resulted from earlier workshops supported jointly by DFID Indonesia and the Forestry Research Programme (through the SYMFOR project). The establishment of the KKIP was an outcome of the SYMFOR Workshops held in Indonesia in June and November 2000. Both of these workshops were organized by the Indonesian NGO LATIN (<http://www.latin.or.id>). The workshops helped to identify four priority areas for action required to support enhanced multi-stakeholder participation for sustainable and equitable forest management in Indonesia. These were:

- Knowledge of good forest management practice (generating and dissemination)
- Support of community forest management
- Curriculum development to support sustainable and equitable forest management
- Support for planning activities under decentralized forest management.

KKIP in Action

Multistakeholder Forest Management is a new paradigm for forest management in Indonesia. It is based on the concept that the values of goods and services from forests should be shared equitably between stakeholders in such a way that respects the ecological capacity of the forest to produce those benefits. There will be many challenges involved in implementing this concept and many problems remain to be solved. The gradual reform of systems of national and regional governance in Indonesia presents opportunities to make progress, but many barriers remain in this post-reform era.

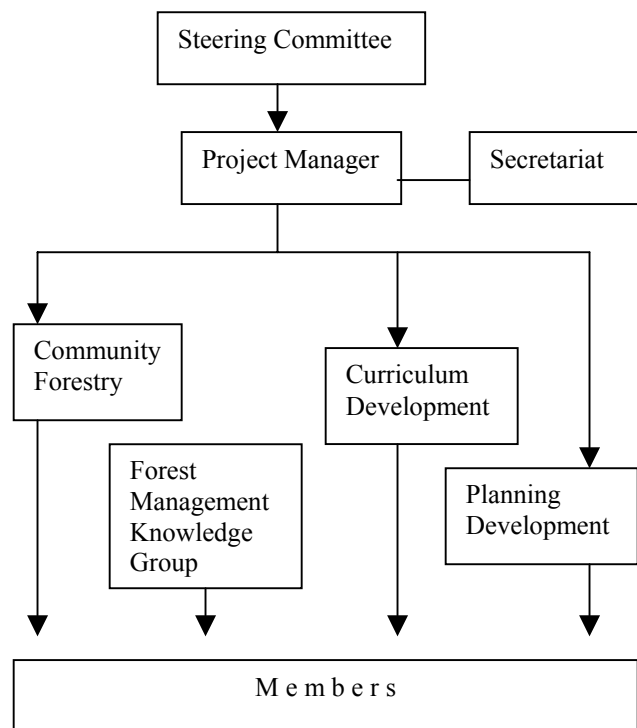
Community forestry has been promoted by the Indonesian Government as being one method of increasing the participation of local communities in forest management. The potential of these policies have yet to be realized in the field, where studies show that most communities are still marginalised.

The KKIP initiative aims to empower community groups to participate more effectively through the provision of knowledge, tools, training and examples of good forest management practice.

Long Term Objectives

The KKIP consortium is developing themes of research and development activities that will address the opportunities and challenges for Multi-stakeholder Forest Management (MFM) in Indonesia through four themes:

1. Empowering local people and communities for effective participation in the management of forest resources.
2. Curriculum development and training.
3. Integration of knowledge supporting multistakeholder forest management
4. Developing an integrated planning system for multistakeholder forest management supporting regional autonomy.



Structure of the KKIP multistakeholder project

Training workshops for yield regulation tools.

By Howard Wright (University of Oxford) and Paul van Gardingen (University of Edinburgh)

Two FRP workshops were held in the United Kingdom during September 2001 to provide training in yield regulation. The first workshop in Oxford introduced the MYRLIN software toolbox as a Method for Yield Regulation with Limited Information. The second workshop in Edinburgh provided additional training in yield regulation using the SYMFOR framework.

The MYRLIN toolbox (<http://www.myrlin.org>) has been developed to implement systems to control sustainable yields at strategic, forest, and single stand level when only limited data are available, for example, a single static inventory. The workshop was held in Oxford from 10-14 September, 2001 and attended by 18 participants who currently work in Guyana, Brazil, Costa Rica, Ecuador, Argentina, Ghana, Cameroon, Uganda, Malaysia and Indonesia. All the participants were actively concerned with yield regulation and were representative of the state forest services and the private sector including community forest management, universities and research organisations.

Participants worked with either their own inventory data or that provided. The software modules comprised a stand table computation with variable size classes and species groupings, increment estimation, a simple growth projection module and yield regulation. The course was taught by Dr Denis Alder who had developed the software which runs in Microsoft Excel.

A subsidiary aim of the workshop was to identify major problems associated with yield regulation in developing countries and associated information and research needs. These included:

- Limitations of existing yield prediction tools (often with no standard system at the national level)
- Problems of control and monitoring of yield in the field (including illegal logging and corruption) and
- Lack of acceptance of guidelines by small loggers and forest owners.
- The lack of a national system for planning harvesting operations in some countries.
- The means by which certification companies assess the adequacy of the yield allocation and regulation².
- There was strong demand for additional training and operational manuals in the areas of GIS application, growth models data analysis and statistics.

The Edinburgh workshop was immediately after the Oxford workshop and involved seven participants who currently work in Guyana and Indonesia to support the analysis of existing data to support policy and management decisions relating to the control and allocation of yield. The workshop ran over two weeks (17-28th September). All of the participants were also involved in pilot studies of timber yield regulation being supported by the FRP in Guyana and Indonesia.

The workshop provided the participants with additional training in the application of SYMFOR for yield regulation studies. The participants identified policy makers (national and regional) and forest managers (industrial and community) as being the main target potential clients that demand new knowledge relating to yield regulation, control and allocation. The workshop then proceeded to further identify the needs of these client stakeholder groups and to design pilot yield regulation studies for Guyana and Indonesia to meet their needs.

The report on the Edinburgh workshop can be downloaded from

http://www.symfor.org/report/training_2002.pdf

² There was concern that many certifiers may only have a rudimentary knowledge of yield regulation.

Multiple Objective Forest Management (MOFORM). Regulating the yield of goods and services from tropical forests.

By Paul van Gardingen (University of Edinburgh)

The development of SYMFOR and the related MYRLIN (<http://www.myrlin.org>) tools supported by the FRP has focused on the improvement of growth estimation and yield prediction for timber resources. A series of yield regulation pilot studies are being conducted with groups in Indonesia, Guyana, French Guiana, Brazil and Ecuador.

Major challenges for the implementation of effective systems of yield regulation still remain in most tropical countries because of the lack of incentives for sustainable management of forests and the prevalence of forest piracy³. The challenges include that:

- Alternative land uses are potentially more profitable.
- There are high opportunity costs associated with the adoption of improved (sustainable) forest management practices.
- Some options for sustainable forest management may maintain or increase the marginalisation of significant stakeholder groups leading to increased conflict and increased potential for illegal harvesting or destruction of the forest resource.

In order to provide a financially viable and socially acceptable alternative to piracy, current and future FRP research on timber yield regulation needs to be integrated into a wider framework. New research initiatives are required that integrate the yield regulation studies with a consideration of the policy, financial, economic and social environments that will influence behaviour.

DFID's Forestry Research Programme is meeting this challenge by designing a new cluster of research projects supporting the development of approaches for yield regulation for goods and services from forests (MOFORM, Multiple Objective Forest Management, <http://www.moform.org>). The FRP commissioned two workshops during 2001 to consider and document demand for yield regulation research that would meet the needs of a wide range of stakeholder groups. The workshops identified constraints limiting effective yield regulation in a range of countries. The findings of the second workshop are available from the MOFORM web site (<http://www.moform.org/planning/demandws>) and

have been supporting a process of consultation during September 2001.

Potential Research Topics for the MOFORM Cluster

Feedback from consultation is now being used to formulate topics for the MOFORM cluster that will be included in a restricted call for proposals. The main potential topics are:

1. The establishment of multiple stakeholder partnerships in partner countries.

Multistakeholder partnerships have already been established in Indonesia and Guyana. The research cluster will continue to support their activities and seek to develop a number of new partnerships in Asia, Latin America and Africa. These partnerships will form the focus for research, training and dissemination activities of the MOFORM cluster in each country or region.

2. A state of knowledge review on yield regulation.

A review of theory and practice for timber yield regulation is proposed for 2002. This review will consider methods for the prediction, allocation, control, monitoring and reporting of the yield of goods and services from forests that can meet the needs resulting from the involvement of a wider range of stakeholders in forest management and the production of a wider range of goods and services from forests.

3. MOFORM yield regulation toolbox.

The toolbox project will adapt existing, or develop new, tools and approaches supporting multiple objective forest management. These will include tools for the prediction, allocation, control, monitoring and reporting of the yield of goods and services from forests and their linkage to other tools used to support forest management decisions. This topic will produce a guide to which yield regulation tools are most appropriate under specific circumstances.

Non-timber forest products have been considered as part of a joint FRP-ETFRN workshop held in Rome during 2000. This workshop considered the opportunities for the application and development of existing research to identify practical solutions for developing countries (Wong, 2000). This review identified a clear need for the development of yield regulation tools for NTFP.

4. Economic and financial tools and instruments supporting MOFORM.

This topic will produce a guide to which economic and financial tools and instruments are most appropriate under specific circumstances. The topic will explore the development of a common currency that allows rational debate between stakeholders who only use monetarised methods of valuation with those that also consider social and cultural values. The "common currency" will be applied to the aim of reaching a consensus on decisions that produce the greatest net social benefit. This in turn

³ Such as illegal logging activities

should lead to decision support systems which are less reliant on research data that will help to rationalise decisions on changes in forest and land use.

Research will consider compensation mechanisms that have potential to transfer value captured by downstream users and consumers of goods and services, to benefit those forest managers who adopt good land and forest management practices upstream. This must include the development of equitable mechanisms for the capture and distribution of benefits (value) resulting from good forest management. The decision support systems may include water, carbon and biodiversity markets. In addition, a more rational approach should enable greater consensus to be obtained on taxation regimes for forests and lands in marginal areas.

Partnerships

The MOFORM yield regulation cluster will work closely with development projects in each partner country and with other research initiatives, in particular the FRP watershed cluster which will consider aspects of decision making relating to land-use planning and conflicting land uses and the FRP cluster on NTFP dynamics which will generate new knowledge on the growth of selected non-timber forest products. Individuals and organisations who are interested in contributing to the research activities, or in the dissemination and uptake of results should contact the MOFORM office in Edinburgh, info@moform.org

Technical Notes Series

The SYMFOR Technical Notes listed here are available from our website, <http://www.symfor.org/technical>.

1. **The SYMFOR model of natural forest processes - opening the black box.**
Paul Phillips, Moray McLeish & Paul van Gardingen (2000).
2. **Modelling Alternative Silvicultural Practices within SYMFOR- Setting the model and interpreting the results.**
Moray J. McLeish (1999).
3. **The SYMFOR model: A general description.**
Paul Phillips, Moray McLeish, Tonya Brash, Farida Herry Susanti, Slamet Gadas, Boen Purnama, Edy Sardjono, Irsyal Yasman, Paul van Gardingen (2000)
4. **Case Study : Simulating Growth and Yield Production using the SYMFOR model.**
Farida Herry Susanty and Eddy Sardjono. (2000)
English and Indonesian Languages.
5. **Case Study : Simulating the development of logged over standing stock using SYMFOR model.**
Ayi Suyana and Sukarya (2000)
English and Indonesian Languages.
6. **Yield Regulation Options for Labanan. A financial and economic analysis of Yield Regulation options for logged over forest at PT Inhutani I, Labanan Concession**
Moray McLeish, Farida Herry Susanty (2000).
7. **SYMFOR Code Documentation.**
Paul Phillips (2000)
8. **The SYMFOR framework for individual-based spatial ecological and silvicultural forest models.**
Paul Phillips and Paul van Gardingen (2001)
9. **An ecological model for the management of natural forests derived from the Tropenbos permanent sample plots at Pibiri, Guyana.**
Phillips,P.D, van der Hout,P., Arets,E.J.M.M., Zagt,R.J., and van Gardingen,P.R. (2002)
(DRAFT for consultation).

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