[1]Exit Strategy:
DFID Forestry Research Programme R6915.

Growth and yield modelling frameworks to determine ecological and economic sustainability of tropical moist forest systems.

Summary.

- SYMFOR is being applied to development problems in Indonesia in conjunction with local stakeholders. The new DFID-IND Multistakeholder Programme (MFP) is considering a series of proposals for further work. These applications require a level of ongoing technical support of the software tools.
- The ongoing application of SYMFOR requires a degree of technical support over the FY 2001-2002. This work would run in parallel to the promotion of the product to enhance uptake in other regions. It is expected that FRP support would end in 2002 when technical support would be fully funded through a combination of development applications and new research activities.
- There is potential to enhance the impact of SYMFOR and other FRP outputs through the development of a more integrated approach to the processing and analysis of inventory and sample plot data to support development objectives. The exit strategy proposes to link SYMFOR with the approaches developed by FRP project R7278 "Humid and semi-humid tropical forest yield regulations with minimal data".
- The exit strategy for R6915 is being submitted as being linked to an associated exit strategy for R7278 to permit the development of an integrated package of tools for the use of forest inventory and sample plot data to support forest resource management within the context of development objectives.
- This work is expected to lead into a state of knowledge review for growth and yield modelling (prediction techniques) and a cluster of potential new research projects to be considered by FRP

Background.

Project R6915 was supported by the FRP initially for the period of 1 July 1997 to 30 June 2000. During this time the project has developed a set of simulation models (SYMFOR) that can be applied to analyse silvicultural systems for sustainable management of tropical forests. These models have been calibrated for application in Indonesia.

Uptake in Indonesia

The uptake of the tools for application in Indonesia will be promoted during a nine month extension to the project up to 31 March 2001. During this time the project will work closely with local stakeholder to develop local applications and training. Initial work is likely to focus on three aspects, these are:

- To support national debate relating to forest management policy in Indonesia. This work aims to improve the system of governance for Indonesia's forests to provide systems that balance peoples needs with environmental and ecological constraints. This process is intended to be transparent and inclusive so that the previously marginalised poor are empowered to play an active role in decisions about their natural resources.
- To support the management of areas of logged-over forest in Indonesia. At present there is no effective system of management for logged-over forest. Regional government and local communities are being given a much greater role in management of these resources in Indonesia. The project will work with government and civil society groups to support the evolution of new management systems for remaining areas of industrial forestry and the new areas selected for community based forest management.
- The potential of SYMFOR to assist the teaching of forest management and ecology is being examined by a number of major universities in Indonesia.

[1] December 2000 version

User community in Indonesia

A workshop funded by the DFID Indonesia programme was hosted on 13/14 June 2000 by LATIN, an Indonesian NGO based in Bogor. The workshop brought together existing and potential users of SYMFOR to discuss potential applications of the tools developed by the FRP project. The workshop established a network of local stakeholders to develop applications and discuss future work. This network has prepared a cluster of projects to be considered for support under the DFID MFP.

Opportunities

The workshop identified a number of new opportunities for the application fo SYMFOR in Indonesia. The most important are:

- Support of community based forest management.
- Yield prediction for selected non-timber forest products,
- Revision of forest management policies and technical guidelines to support the ongoing process of decentralisation in Indonesia

Impediments to uptake

Discussions with key participants at the workshop identified a number of potential impediments to the uptake of growth and yield tools in Indonesia.

- Software support. There is a need for a sustainable system to support the tools developed by DFID and other donors.
- Training of trainers and users.
- Availability of suitable data.
- Adapting tools to meet the needs of partners and target stakeholder groups.

Uptake in other Countries.

SYMFOR is currently being evaluated for possible adoption by DFID projects in Brazil and Guyana and in conjunction with the Iwokrama project in Guyana. In each case, it is expected that the application of SYMFOR in new countries will require a sequence of activities including at least the following:

- Establishing partnerships with local stakeholders
- Local needs assessment (developing applications).
- Calibration of growth model.
- Generation of species groups
- Definition and implementation of local forest management activities in the management model.
- Production of documentation.

FRP R7278 Humid and semi-humid tropical forest yield regulation with minimal data.

This project involving Howard Wright and Denis Alder is developing a simple methodology to estimate and regulate the yield from tropical moist forests when data are limited (usually to only one measurement in time). This project complements the more complex and data intensive approaches used by SYMFOR (R6915). Discussions with Howard Wright suggest that there is potential to bring the outputs of the two projects closer together to develop an integrated approach supporting decisions relating to the growth and yield of tropical high forest.

The main objective of this work will be to develop a integrated system for growth and yield prediction to support decisions made by stakeholders. These include strategic decisions such as the revision of management policies (at national or regional levels) and operational decisions at the level of a management unit (for both industrial and community forestry systems). The stakeholder groups will also contribute to a discussion of methods to enhance the benefits of forest management to the poor

The first step of this work will be to establish partnerships with stakeholder groups in two countries. These groups will contribute to define developmental problems for strategic (policy) and operational forest management. The SYMFOR (R6915) and MYRLIN (R7278) models will then be applied in both countries. This will be implemented through linked case studies.

These results from the case studies will be compared to identify potential synergies of the two sets of tools and approaches. These will be reported to a state of knowledge review planned by FRP for early 2002. The results from the state of knowledge review will be used to discuss future work with the objectives of (1) identifying how such approaches can contribute to international development targets (specifically, poverty alleviation and reversing environmental degradation).

The development of links between the two FRP projects during their exit strategies would include enhanced documentation supporting development objectives. This should discuss what each tool can do, their data requirements and provide support to users in the form of decisions trees for applications.

Both sets of tools rely upon sample plot and inventory data. The development projects in potential target countries use a variety of methods to manage and process such data. Several projects supported by DFID are using the TREMA software for this purpose. The work to develop a version of SYMFOR for the Dendrogene project will develop a link between SYMFOR and the TREMA data base and visualisation procedures. This could be extended to develop an integrated “toobox” to support users of sample plot and inventory data within the development context. This approach would support applications from policy and management, through to research and education.

Trema - Tree Management and Mapping Software for sustainable forest management.

The Trema software has been applied by development projects in a number of countries. It is currently being used by DFID development projects in Guyana and Brazil and there is interest in developing a combined approach to link TREMA to SYMFOR. This would enhance predictions of long-term sustainable management providing predictions on changes in the ecology of the forest following management interventions with links to financial and economic analysis.

Proposed Exit Strategy FY2001-2002

The exit strategy proposed for the project comprises of three components, (1) supporting uptake of SYMFOR in Indonesia, (2) promoting application in other target countries, and (3) dissemination and technical support for outputs from the project.

Supporting uptake in Indonesia.

FRP project R6915 will support the application of growth and yield tools by local stakeholder groups over the period 2001-2001. During this period the local stakeholder partnerships developed from the June 2000 workshop will continue to develop their cluster of proposals for support under the DFID MFP (KDIP proposal).

It is likely that over applications of growth and yield tools will be developed by partners during this period. A group linked to the Universitas Mulawarman (Samarinda) has indicated their intention to develop an application of SYMFOR for up to two forest concessions in East Kalimantan

Promoting application in other target countries.

The FRP project has been working closely with DFID bilateral projects to identify partner organisations that would be able to collaborate in the application of SYMFOR outside Indonesia. Brazil and Guyana have been identified as possible locations. These applications will require some initial research to adapt and calibrate the model for the characteristics of the local forest and management systems. These applications would thus need a period of research funding before the model could be applied directly to support development objectives.

New research initiatives.

The SYMFOR framework is flexible and can be adapted to support other types of research. Users in Indonesia are interested in developing methods to predict the growth and yield of selected non-timber forest products in community managed forests. SYMFOR may have a role here, but this can only be determined after the users have defined the problem (and demand for research) and identified sources of information. If existing data are not available, SYMFOR may have a role as a conceptual framework to aid in the design of suitable data collection programmes

Technical support

Technical support has been identified, as an important issue required supporting the uptake of SYMFOR during the period immediately after the completion of the project. Discussion with the potential user group in Indonesia suggests that users require external support, as opposed to training local staff in software development. This conclusion is further strengthened by the intention to apply SYMFOR outside Indonesia. It is concluded that the most efficient approach would be to have centralised support of the software.

The most practical of these options would be for centralised support to be provided by the development team in Edinburgh. There are two options for this.

- The first would be to make SYMFOR a commercial product and charge users for copies and technical support. This option is not favoured by the development team as it will be difficult to implement and if successful it is likely that the tools would not be available to support the rural poor.
- The preferred option is to generate support for the project through new activities and applications linked to development or research projects.

Exit strategy

This exit strategy proposes 15 months additional funding from DFID FRP in order to make the transition from a research project to activities supporting development objectives. It is intended that at the end of this period ongoing support for the application of SYMFOR would be funded external to the FRP. The exit strategy would also be used as an opportunity to work with stakeholders in at least two countries to define needs for future work, linked to clearly identified development problems.

Ongoing support for SYMFOR at the end of the period of FRP funding will only be required if the tools have been adopted by users. The required funding will be provided using a combination of the following sources.

- Direct support from development projects that are applying SYMFOR.
- Support through the development of new research initiatives that use the SYMFOR framework.
- Funding for wider adoption supported by international agencies (e.g. FAO, UNEP)