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## Report

# Natural Forest Concessions and Community Forests Towards Outcome-Based Regulation of Logging

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## **Natural Forest Concessions and Community Forests**

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## **Towards Outcome-Based Regulation of Logging**

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# Towards Outcome-Based Regulation of Logging in Natural Forest Concessions and Community Forests<sup>1</sup>

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Contribution to a Workshop of the Natural Resources Management (EPIQ/NRM-2) (Technical Cooperation between Department of Forestry -- Bappenas -- USAID) on Reorientation of Forestry Policy to be Outcome-Based (*Reorientasi Kebijakan Kehutanan Berdasarkan "Outcome"*), 20 November 1997

# Towards Outcome-Based Regulation of Logging in Natural Forest Concessions and Community Forests<sup>2</sup>

Chris Bennett and Silver Hutabarat

Draft 12 November 1997

## 1. Introduction

One of the fundamental constraints to sustainable forest management (SFM) in many parts of the world is a development policy regime which encourages deforestation. In Indonesia, this problem can be divided into three interrelated elements, forest resources undervalued by market restrictions and underestimation of ecological values, uncertainty of tenure which discourages the long range view of forest management necessary to achieve sustainability and a high-cost, overly-prescriptive and bureaucratic system of forest regulation (Bennett 1996)

This paper reviews the third element and makes a case for reorientation of forest policy away from prescriptive regulation towards a simpler and more outcome-based system which would reduce costs, encourage innovation in production and marketing as well as facilitate accountability of forest managers and inspectors alike<sup>3</sup>. The focus is on regulation of state forest lands where there are either natural forests or highly diverse agroforests. Existing regulatory problems faced by corporate concessionaires are discussed. These problems are likely to be more onerous for the managers of community forests where trees are cut, either as a minor or major activity if a similar regulatory route is followed.

### Concessionaires and Existing Regulations

Throughout the 1990s the issue of forest rent has never been far from the centre stage of debate about forest policy. Various studies have concluded that forest concessions in natural production forests have enjoyed excessive rents (Walhi 1991, World Bank 1993, ITFMP 1995). The Ministry of Forestry (MoFr) has commissioned its own special studies to estimate the size of the rent to establish how much higher the forestry royalties might be raised. A problem faced by all of these studies is the lack of consistently reliable aggregate data about production costs and market values. One cost which by its very nature is difficult to capture is the cost of doing forestry business, in particular, the cost of negotiating the forest bureaucracy. Concessionaires maintain, therefore, that the forest rent accruing to them is not as high as formal analysis indicates.

The highly complex system of permits, licences and other approvals exerts a significant cost, reduces efficiency and increases risk. Forestry regulation has largely become a paper exercise with abundant opportunities for mismanagement by the inspection service and other officials. It is not the purpose of this paper to quantify the cost of the present regulatory system, neither to argue to what extent forest royalties might, therefore, be raised but rather to argue that an outcome-based system would offer the opportunity of significantly lower costs whilst ensuring

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<sup>2</sup> Contribution to a Workshop of the Natural Resources Management (NRM-II) Project (Department of Forestry -- Bappenas -- USAID) on Reorientation of Forestry Policy to be Outcome-Based (*Reorientasi Kebijakan Kehutanan Berdasarkan "Outcome"*), 20 November 1997

<sup>3</sup> The NRM-II Project is working on the development of an outcome-based approach for forest regulation. This work includes conceptual and field testing stages linked to policy development

greater accountability of concessionaires and the inspection service itself

### **Community Forests and Future Regulation**

Gatherers of non-timber forest products (NTFP) in Indonesia are typically perceived as non-timber harvesters. In fact, few NTFP harvesters would never cut down at least a small number of trees in forested land. Thus, ironwood or ulin trees in Kalimantan may be felled to construct settlement houses or board walks along river banks as well as a wide range of household and agricultural implements. In agroforests unproductive trees may be replaced e.g. the damar (*Shorea*) trees in Krui, Lampung and the Lembo of East Kalimantan.

As the forest development community makes more frequent and compelling arguments for formal recognition of extractive reserves for NTFPs, it is important therefore also important to allow for some timber removal. Rights to extract NTFPs and timber in state forest lands imply responsibilities to the other partners in resource ownership, the people of Indonesia (unless the state forest lands are converted to private ownership). If forest functions are to be conserved (e.g., watershed protection and biophysical integrity), it is likely that some regulation of forest practices will be necessary. In general, the greater a community's focus on timber extraction the greater the potential impact on recovery of the forest ecosystem after harvest. Given the high value of some timber species tree cutting regulations are also likely to be significant in "NTFP" reserves. Getting regulations right in either kind of forest may make the difference between economic and environmental viability on the one hand and failure on the other leading to incentives to convert the forest land to agricultural or other uses.

## **2. Regulatory Implications of Logging by Local Communities**

Community forest management is becoming established as an element of government planning for forestry development in Indonesia. Repelita VI and the Indonesian Forestry Action Plan make frequent reference to community involvement in forest management. Within the Ministry of Forestry, under the Directorate Generals and the Agency for Research and Development, socio-economic and social forestry sections have been set up to support community-based forestry. Among MoFr community forestry initiatives are the *Hutan Rakyat* in private forests and, in state forest land, the *Hutan Kemasyarakatan* and NGO-community pilot programme for logging in old concessions (see Table 1). Possibilities of limited community-based exploitation of specific zones within protected areas are also being considered. Local NGOs and development projects are promoting the recognition of long-established and sustainable community forest systems. A case in point is the concept of *Sistem Hutan Kerakyatan* (SHK) promoted by a number of NGOs through the *Konsorsium SHK* coordinated by Lembaga Alam Tropika (LATIN).

As the MoFr moves cautiously towards meaningful recognition of community forest systems and the testing of logging by local communities, the question of how to regulate such production systems is raised? The problem is exacerbated by government concerns that local communities will behave irresponsibly by exceeding cutting regulations and by those who may underestimate the economic incentives to do so.

This paper considers two approaches to regulation — First, the potential negative consequences of applying overly-prescriptive regulations which would generate high-cost bureaucratic constraints (like existing forest management regulations for corporate concessions) to successful community forest management and second, how a far simpler outcome-based (end-

results) set of regulations could encourage profitable and sustainable forest management (SFM<sup>4</sup>) It further argues that establishing this regulatory approach would address the concerns of those who fear that local communities may indulge in excessive forest exploitation because its greater simplicity and objectivity would encourage a transparent and practicable process readily understood by forest managers and open to scrutiny by a wide range of stakeholders, not just the existing inspection service

In sum,

- Government acceptance of the principle of logging by local communities has proceeded slowly, in part because of legitimate concerns of harvesting excesses These concerns may lead to*
- Overly-prescriptive and bureaucratic regulations which are high-cost to manage and to monitor effectively As a result there will be*
- Only a small number of government-approved community forests*

The Challenge is to

- *Develop a Regulatory Framework which is Credible, Readily Understood, Transparent and Goal-Oriented*
- *Thereby Addressing Legitimate Government Concerns about Logging in Community Forests*
- *And Favouring Policies which Allow Widespread Adoption of Community Forest Systems with Minimal Outside Intervention*

### **3 Overly-Prescriptive and Proxy Regulations for Forest Concessions**

The current regulatory framework for Indonesia's natural production forests under corporate concession management is highly prescriptive in principle and bureaucratic in implementation Regulation of forest practices centres around the issuing of licenses, permits and approvals for prescribed requirements such as road construction, equipment types, personnel qualifications, programmes for research and development and financial reporting as well as logging itself It focusses on inputs, primarily planning documents, placing little emphasis on actual outcomes It is further characterised by inflexibility, e g , the process of approval for the annual cutting plan which has become so problematic that the Managing Director of the parastatal concessionaire Inhutani I has publically criticised its shortcomings (Bisnis Indonesia 1997)

Most regulations are indirect and proxy in nature e g stipulations about machinery used and staffing qualifications, and therefore give little assurance that impacts on the forest ecosystem are within tolerable limits Only a relatively small number of regulatory requirements focus on the impact of logging activities on the forest ecosystem, which determine the likelihood of post-harvest recovery of the forest's biophysical integrity Most regulations prescribe forest practices rather than the sustainable outcome to be achieved --- the "how" rather than the "what" of forest

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<sup>4</sup> The term sustainable forest management (SFM) used in this paper is understood to mean management of a unit of forest whereby production practices allow recovery of ecosystem integrity within the exploitation cycle (Bennett et al 1997) SFM is generally divided into production, ecological (biodiversity and watershed management) and social aspects This paper focusses on the production and ecological functions and does not consider the social dimension, an issue of greater relevance for corporate concession management It is, however, not irrelevant for community forests In and around a forest management unit, there may be different local groups e g , original inhabitants, settlers from one or more nearby or far-flung regions

management goals Most of the TPTI (mandatory Indonesian Selective Logging and Planting System) is input-oriented with little practical emphasis on actual logging impacts such as damage to the residual stand and site disturbance

In sum, prescriptive regulations dictate the management process towards achievement of the development goals Thus, the following are regulated

- \* *Quantity and Quality of Personnel*
- \* *Equipment Used*
- \* *Financial Viability*
- \* *Operational Budget Allocation*
- \* *Research Programmes*
- \* *Silvicultural Inputs*

Such regulations, therefore, tend to be reliant on indirect measures of SFM goals As there are many possible options for management of diverse tropical forest ecosystems, prescriptive regulations tend to proliferate accordingly They also proliferate in response to forest managers' efforts at evasion when such regulations are inappropriate to actual site conditions Were such prescriptions to reflect the kind of site-specific information available to forest managers (or theoretical perfect information) there would be no problem Such regulatory specificity would imply an impracticable multiplicity of rules in diverse tropical forest systems

Not only are most current forest management regulations of indirect relevance to assuring low impact, sustainable logging but some also encourage economically- and environmentally-adverse outcomes, e.g. restrictive cut control mechanisms and technical guidelines as compulsory action which result in practices poorly-adapted to actual local conditions Cut-control mechanisms can reduce the value of the forest resource while exacerbating the problem of logging waste Thus the volume limit in the Annual Allowable Cut (AAC), as is typical of quota mechanisms encourages high-grading or creaming The number of harvestable trees (according to TPTI standards) is reduced by a safety factor (0.8%) and exploitation factor (around 0.7%) For a given area, therefore, only about 60% of the sustainable volume can be extracted In effect, relative to the allowable log volume the harvestable tree resource is over-abundant Extraction tends to be wasteful Slightly defective logs can be ignored, more trees than necessary are felled and economically-usable wood is left behind in the forest (Klassen 1994)

An example of how focus on (compulsory) guidelines can detract from SFM goals and even encourage harmful practices can be seen from MoFr rules for construction in concessions To allow for sufficient drying and settling of major roads, a sun-strip either side of the road is required Logs of harvestable diameter which are obtained as a result of road building can be recovered for commercial use but are not included inside the cut quota (JPT) of the AAC Building the widest allowable roads has been used more as a logging strategy conflicting with the spirit if not the letter of the environmentally-sound road construction

Despite the above problems in recent years the MoFr has managed to reduce some poor forestry practices by better identification of unprofessional forest managers and by revoking or not renewing the concession licenses of the worst offenders The existing regulatory framework however, is probably less able to distinguish between the performance of remaining concessionaires in terms of forest ecosystem impacts It is likely to be even less informative about the impact of community management on the forest ecosystem And its cost for local community managers may prove prohibitive

#### 4. Costs of Negotiating the Forest Bureaucracy

Corporate forest concessionaires face a procedural labyrinth of over 65 distinct regulations which must be followed every year, many requiring several bureaucratic steps of indeterminate length. Corporate concessionaires engage full-time administrative and technical staff to meet the reporting and processing requirements of these regulations<sup>5</sup>. In 1995, as seen in Table 2 (details in Appendix 1), one concessionaire in Kalimantan had to follow reporting, permit and licence procedures relevant to 2 Presidential decrees (*Keppres*), 4 Government Acts (*Peraturan Pemerintah*), 10 Minister's decrees, 37 Director Generals' decrees or circulars (*Surat Keputusan* or *Surat Ederan*), as well as circulars from Litbang (1), Kanwil (12) and Dinas Kehutanan (3)<sup>6</sup>. Many directives required yearly, quarterly or monthly reporting after field implementation. There were 14 monthly reports and four quarterly reports. Obtaining report/proposal approval involved a few to several intermediate stages.

For community forests meeting current regulatory requirements may prove insurmountable. The Ministry of Forestry (MoFr) is now considering the possibility of recognising community forests where logging can take place, e.g. Social Forestry Development Project (Sanggau, West Kalimantan) and MoFr-Harvard Project (Ketapang, West Kalimantan). It is hard to imagine how such community forest managers could negotiate the present array of regulations for natural production forests.

The present prescriptive approach to forestry regulation steadily increases in complexity and cost by a cumulative process designed to plug past loopholes and irregularities. It reflects legitimate concern about the future of Indonesia's natural production forests. But bureaucracy begets bureaucracy. And inspection resources remain limited. There is a tendency to focus them more on verification of reporting procedures than on visits to and evaluation of actual logging sites. Over-reliance on "paper" evaluations is inherently more prone to abuse.

As regulations grow in number and complexity, the MoFr at the centre has greater difficulty in conducting meaningful spot audits of both the forests and their MoFr inspectors. Other forest stakeholders have even more difficulty understanding the quality of forest management by reference to the present inspection process.

The professional concessionaire has little incentive to innovate and raise economic efficiency. The more heavily prescribed are forest management practices, the less opportunity there is to adapt logging to local conditions. Opportunities for maximising output (and forest value) and minimising impact are lost. Meanwhile, the unprofessional concessionaire can readily hide behind purchased permits.

There are high costs to the present regulatory system<sup>7</sup>. To cite two examples, (1) The approval process for the annual allowable cut (AAC / RKT) can take up to a year, creating

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<sup>5</sup> In 1995, the MoFr began an initiative to reduce the burden of bureaucracy on several concessions of proven performance. Under this so-called "self-approval" system, annual cutting plans (RKT) can be approved by the concessionaire without the need to go through the many steps of MoFr approval. This initiative has yet to be fully developed because of uncertainties surrounding its implementation. Meanwhile, a decree issued at around the same time simplified the process for all RKT approvals (while keeping the content of the RKT unchanged), regardless of their past performance. This essentially undermined incentives to improve forest management to be eligible for RKT "self-approval". Furthermore, procedural simplifications alone, without refocussing on ecosystem impacts, will not necessarily ensure better forest management.

<sup>6</sup> The number of regulations listed is probably an underestimate. The compiler of the regulations noted only three of the 15 instructions dealing with the Bina Desa Hutan / PMDH programme.

<sup>7</sup> This also points to a wider issue -- the opportunity cost of natural forest management. Rising costs of doing forestry business make alternative non-forest uses of the land relatively more attractive to investors and to local government, adding to the pressure on MoFr to allow conversion of forest land to agriculture.

uncertainty and encouraging poor planning. Thus, logging roads in a RKT area are used too soon after construction because the road building permit has been delayed. As a result, road quality deteriorates rapidly raising both costs and erosion, (2) Delayed arrival of the MoFr inspector who authorises the production report (*Laporan Hasil Produksi LHP*) by say, one day, can hold up by a month of more the river transport of several hundred cubic metres of logs because the river level has fallen too low.

Again, the burden of such costs would be harder for community forest managers to bear. In sum, applying concession regulatory requirements to community forests would, on paper and in practice, represent a bureaucratic minefield which few could negotiate.

## 5 Towards More Objective and Transparent Forestry Regulations

Could a simpler, more objective and transparent regulatory system be developed for assuring sustainable logging under community forest management? By focussing regulation on sustainable forest management (SFM) outcomes rather than instructions on how to achieve them, the system could be greatly simplified. Certainly, technical guidelines could be provided to assist (not dictate) management decisions. SFM results could be achieved by setting logging impact thresholds (e.g., readily quantifiable damage to residual stand, site disturbance, canopy opening, and water flow quality). These thresholds would be conservatively set to assure regeneration of the forest ecosystem following the planned cutting cycle (see below).

An outcome-based system for community forest regulation would have a number of advantages for forest managers, other stakeholders and the primary "stickholders", the MoFr (Bennett 1996). Outcome-based regulation of forest management would favour SFM in the following ways:

- 1 **Simplicity** Important for community forest managers and local inspectors alike
- 2 **Focus on Sustainable Outcomes** Forest managers and regulators alike will be able to focus more on SFM outcomes, less on how they may be best achieved
- 3 **Predictive Aspect** Outcome-based quantitative assessments of forest management units provide more useful information about the performance of a forest manager and decisions about whether to extending leases
- 4 **Checks on Excessive Logging** Having a simple, outcome-based system for regulating community forestry will help to allay the legitimate concerns of government that communities will abuse their logging rights. Excessive logging could be more quickly discovered (by MoFr at the centre if not by current regional inspection services). Awareness that infringements can be relatively easily detected will make forest managers think twice about willful evasion or logging too close to threshold specifications
- 5 **Integration with Monitoring by Remote Sensing and GIS** At least one of the core indicators which might be used in an outcome-based approach (size of canopy opening or gap (see next section), could be verified or linked to remote sensing. This would provide a check on the system for

forest managers and inspectors alike (see 6, below) The more quantifiable outcome-based parameters would be better suited to incorporation of GIS to monitor forest management performance

- 6 **Lower Bureaucratic Costs.** Given its greater simplicity, it is easier for other stakeholders (e.g., MoFr at the centre, local government, local communities and forest management observers and analysts) to evaluate the performance of the immediate "stickholders", the *Dinas Kehutanan* and *Kanwil*. This may, in turn, reduce the tendencies of forest inspectors and other officials to place unnecessarily bureaucratic and costly constraints on community forestry
- 7 **Site-Specific Adaptability.** Allows forest managers the flexibility to adapt their logging practices to variable, site-specific conditions while keeping to overall SFM goals by remaining within acceptable impact parameters
- 8 **Innovation and Efficiency** Also, increases opportunities for raising efficiency and incentives to innovate
- 9 **Optimising Economic Value.** Within acceptable impact parameters, more wood will be extracted with less waste than under the present quota-based cut control mechanism. There would also be more flexibility regarding species selection for logging in response to market demand

## 10. Setting Impact Thresholds for Outcome-Based Regulation

Do we know enough about the impact of logging on tropical natural forest ecosystems to be able to establish impact thresholds for outcome-based regulation? Certainly, not as much as we would like to know but establishing forestry management guidelines and regulations, prescriptive or otherwise, has generally depended upon making assumptions from what is already known. This was how the TPTI was developed

Establishing impact thresholds is as much about defining objectives as it is about making use of what is known about the relationship between logging intensity and recovery of the forest ecosystem. Thus, SFM of natural production forests managed by local communities is the objective. To preclude an interminable discussion about what constitutes SFM, the definition used here is simply, "Management of a unit of forest whereby production practices allow recovery of ecosystem integrity within a given exploitation cycle". This definition is further qualified by an understanding that there are three principal components of SFM -- production, ecological and social functions, the latter ensuring that local communities enjoy a proportionate share of the benefits of forest management

- **Impact Thresholds at the Logging Site**

From the results of past research and experience a number of outcome-based indicators of the quality of forest regeneration after logging can be recognised, namely, damage to the residual stand, site disturbance and extent of canopy opening or forest gap and overall tree species composition. The first three indicators can be assessed in the logging year itself when access to the site is easiest. The fourth would be assessed at intervals some years after logging (presenting practical but not insurmountable

difficulties of access to the site where skid trails and minor logging roads have been eroded or overgrown)

- \* **Residual Stand** The incidence and severity of damage to the residual stand or *pohon inti* gives a direct indication of the quality of the second cut (35 to 50 years after the first cut in a lowland Dipterocarp forest)<sup>8</sup>
- \* **Site Disturbance** Site disturbance (ranging from light soil disturbance to severe removal of organic soil), typically along the skid-trails, is caused by the felling and extraction of the trees, e.g., through the action of bulldozers particular where skid trails are not pre-designed and constructed. This damage affects some trees of the second cut and those recruited for the third cut cycle. Under the MoFr's STREK project CIRAD suggested a conservative threshold for both parameters of around 30% for both (Berthaud & Sist 1995)
- \* **Gap Size** Degree of canopy opening or gap size has important implications for recruitment of commercial species. Gaps which are too large will provide disproportional advantages to pioneer species and adverse microclimatic and ecological conditions for remaining trees and recruitment of desirable species
- \* **Tree Demography** A fourth kind of indicator of forest regeneration could be assessed two to four years after logging by measuring the population of seedlings, saplings, poles and larger trees. Recovery of diverse tree populations within acceptable limits is arguably the most practicable indicator of recovery of overall forest biodiversity. As such, this indicator is a proxy for biodiversity and general ecological recovery within the forest, to be replaced by more direct measures as they become practical tools of assessment by regulators. Assessment of tree demography represents the most direct measure of regeneration within the exploitation cycle but also the most difficult one because of the barrier to site access presented by vegetation regrowth. Indicators 1 to 3, however, can give an adequate indication of regeneration outcome shortly after logging

Finally, it should be noted that there is a distinction between the indicators. Though all are outcome-based, some more closely indicate the SFM production outcome. Thus, indicators 1 and 4, are actual outcomes, whereas 2 and 3 are strongly associated with the capacity of the forest to recover, and are a valid basis for predicting outcomes. Although, in some sense they may be perceived as prescriptive, their close relationship to ecosystem recovery justifies their inclusion as outcome-based indicators (compare with regulations that stipulate training qualifications for concession staff, equipment which should be used and reporting of company finances)

- **Beyond the Logging Site — Watershed Services of the Forest**

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<sup>8</sup> According to the TPTI, no fewer than 25 trees per hectare of dbh 30 cm up remaining after logging. An alternative, more realistic approach would be to replace the mandatory number of residual trees with minimum dbh thresholds for major species groups to be logged (Nolan 1997, Leighton 1996)

Aside from immediate tree damage and site disturbance, logging activities affect watershed management within and beyond the confines of the forest management unit, e.g., when roads cross drainage and river systems. Poorly constructed roads for logging trucks built with short-term needs in mind and indiscriminate crossing of streams by bulldozers can cause serious deterioration of waterways. Rather than stipulate in detail how skid-trails and roads should be constructed, it might be more environmentally-relevant to establish baseline flow and turbidity characteristics and then decide on threshold deviation limits from the pre-determined norm. Technical guidelines could inform forest managers about the relationship between water system disturbance and water quality. They would then prescribe their own operational techniques to keep within impact thresholds.

**Reliance on the Current State of SFM Knowledge** Given the complexity of the tropical rainforest ecosystem and the decades of research that are needed to fully understand its regeneration dynamics, some may argue that setting logging impact thresholds is premature. But it is no less open to question whether the present prescriptive system of forest management controls is a valid means of ensuring SFM. And how much forest will there be left by the time knowledge about logging impact is complete?

The pragmatic solution is to rely as far as possible upon the current state of SFM knowledge, integrating knowledge from both research and practical experience. In particular the outcome of following the TPTI. Thus, logging impacts from properly-implemented TPTI (a few companies have met or come close to such standards) and from reduced impact logging (RIL) techniques (e.g., those established by the Sabah Foundation see Pinard *et al* 1995) can be integrated with what is known from past experiments under tropical natural forest conditions (FRIM, Malaysia 1990, Berthaud & Sist 1995, *inter alia*).

It is likely that conservative thresholds for the above three impacts (damage to the residual stand, site disturbance and canopy opening) would range from 20 to 30% for each parameter, under the assumption of a 35 year cycle for Dipterocarp forests in western Kalimantan. Of course, setting meaningful impact thresholds will depend upon site conditions and the cutting cycle being followed. If the fourth parameter, tree demographics, is to be included there will have to be some agreement about the limit of acceptable deviation from the pre-logging tree population. Establishing water quality standards to be maintained by forest managers should not prevent insurmountable difficulties.

In sum there are a number of core indicators of the forest ecosystem impacts of logging relevant to the SFM objective for the regulation of community forest management. Deciding on what those thresholds should be for a given forest management unit should be part of a consultative process amongst stakeholders with the opportunity for periodic revision in the light of new research knowledge or practical experience.

## 7. Introducing Outcome-Based Regulations for Community Forests

Only a small part of the TPTI focusses on the fundamental determinants of regeneration, e.g., the requirement that no fewer than 25 healthy residual trees (*pohon inti*) remain after logging. An outcome-based approach for community forestry could be viewed as a (fundamental) reorientation of TPTI. Unlike the TPTI, it would have to allow for site-specific characteristics and the possibility of different cutting cycles. Thresholds should be set by broad-based regional committees with representatives from research institutes, MoFr, local government as well as the community managers themselves. Impact thresholds could be reviewed, say every five years to accommodate new knowledge. If successful, the experience could also be used to argue for

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reform of the TPTI, recognised by the MoFr as in need of improvement (Minister cit Bisnis Indonesia 1996) and even the wider process of concession regulation<sup>9</sup>

**An Alternative Regulatory Approach** How should the outcome-based concept for regulation of community forest management be introduced? First, development projects and other programmes for community forestry should include efforts to devise appropriate outcome-based indicators as a proposed basis for regulation beyond a project's lifetime. Such indicators could be derived from the monitoring and evaluation protocols of projects. Lessons learned from this process could help the MoFr to frame country-wide outcome-based regulations linking them to existing community forestry programmes such as *Hutan Kemasyarakatan* and *Hutan Rakyat* as well as future additional approaches.

Second, policy-makers in collaboration with researchers and stakeholders will have to frame a regulatory approach for community forests (and an alternative approach for concessionaires) which displays a light but essential hand of intervention, focussing upon the essential outcomes being sought rather than the heavier bureaucratic involvement of prescribing how such outcomes should be sought. Supporting technical-guidelines will undoubtedly help but only if they are perceived as such and not as instructions.

Finally, there is the matter of the operational side to meeting outcome-based regulations. Obviously, logging crews cannot be expected to work under no other direction than outcome-based impact thresholds. It would be at the stage of preparing cutting plans that the forest manager, whether a local community or corporate concessionaire unit, would translate the regulatory limits on logging impacts into guidelines for the field crews. These guidelines would be prepared by integrating knowledge of site-specific biophysical characteristics with available information on the relationship between impacts and outcomes. True, field crews would effectively follow prescriptive practices, e.g., how to keep to designed skid trails, to use winches, to directional fell and to avoid crossing streams or how many trees of a given size and species they should fell over a given area or, in the case of corporate concessionaires, how to follow computerised tree management systems. But the important point to note here is that the practices would not be prescribed by regulations but rather adapted to local conditions while keeping within government-set, allowable levels of impact on the forest ecosystem.<sup>10</sup>

**Challenges of Institutional Change** But is the outcome-based approach a feasible option? Does it not depart too far from the way in which forestry institutions -- and government institutions in general -- operate, not only in Indonesia but in other countries where forest management is a major economic activity. One of the most intricate and exhaustive systems of prescriptive regulations is to be found in British Columbia, Canada (BC 1996). In Washington State, USA, riparian management regulations are also highly prescriptive.

Following a step-wise and cautious approach, drawing from the more outcome-based parts of forestry regulation, it should be possible to introduce a simpler, lower-cost and more rational regulatory system for community forests than would be the case if the present concession

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<sup>9</sup> Reform of concession regulation need not be as radical as it might at first appear. Already, there is the proposed RKT self approval system for well-managed concessions. The basis for adjudging a concession to be fit for the privilege of RKT self-approval could be modified to be more outcome-based. If a concessionaire were to abuse the greater freedom of management approval and implementation, the self-approval right could be suspended (subject to objective and transparent evaluation) and the concessionaire returned to the "normal" management approval system.

<sup>10</sup> The outcome-based alternative being debated in British Columbia is referred to as an end-results approach.

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regulation system were to be applied to community managers. The challenges for introducing an outcome-based system are plenty, some may appear insurmountable.

Some may argue, pointing to existing community development projects in forestry settings, that there is no problem. These projects, e.g., the SFDP in Sanggau, are functioning without undue interference from the MoFr bureaucracy. During a project's lifetime, special agreements allow a range of activities that would otherwise not be permitted. The question here is one of replicability. What regulatory obligations will a community forest project face after the end of the project? Also, how favourable will the regulatory framework be for the much more numerous locations where community forestry could occur?

One solution to excessive bureaucratic involvement might be to release community forests from conventional inspection by, say *Dinas Kehutanan*, if the quality of forest management were to be assured by independent certification. Independent certification of forest management units should be adjusted to the particular circumstances of community forests. The Indonesian Ecolabelling Institute, Rainforest Alliance and CIFOR, amongst others, are developing certification systems for community forestry. But some certification systems also tend to yield to the "prescriptive temptation".

Perhaps most formidable of all would be the introduction of such a system at the regional level where the local inspection and supervision services of the MoFr tend to have a different order of priorities and are not noted for their willingness and ability to accept change. They will be looking for what they are adept at finding: ways around the formal system. The inspection services would be particularly reluctant to lose their lucrative control over many of the stages of forest management by the corporate concessionaires. But, given the greater clarity of goals and benefits that result from outcome-based regulations, other institutions are likely to support the approach, e.g., Local government, NGOs and communities themselves.

Of course, one does not overturn the existing regulatory framework overnight. Concessions could be given the option of staying with the old system or choosing to be regulated under an outcome-based approach. Should their performance fall below acceptable, outcome-based limits they would again fall under the scrutiny of the conventional inspection system. Many would choose to stay with the old system. Professional companies who would be able to meet outcome-based standards would be attracted by its lower costs and greater flexibility and would see a clearer future for long term management of natural production forests. Ultimately, once there were evidence of the benefits the outcome-based approach could be introduced as the principal means of forest regulation.

In framing outcome-based indicators the "prescriptive temptation" will be hard to avoid. Forestry specialists called upon to put together outcome-based protocols tend to operate on the generally correct assumption that they know more about the principles of ecosystem management than concessionaires, let alone local people. As they set about establishing appropriate SFM goals they may find it hard to resist the assumption that they know best how to achieve those goals. Forest managers are perceived as less educated, let alone local people who may be seen as a liability when in fact, they can become SFM's greatest asset. Their detailed knowledge of the forest management unit is likely to exceed that which can be anticipated by general and mandatory forest practices established by a centralised board of experts. Encouragingly the MoFr's Agency for Forestry Research and Development is currently working on identifying clearer post-harvest indicators of logging impacts (Mansyur & Endom 1997).

Clear and simple indicators of impact thresholds and understanding about the consequences of exceeding them can be grasped by local people. Evaluating this local capacity should be tested in the field. Perhaps, only then will policy-makers be persuaded that local people can be given sufficient flexibility to optimise forest resource management. There would still be a role for true technical guidelines (as opposed to guidelines which are *de facto*

instructions) to help local managers understand the consequences of their logging activities on ecosystem recovery

## 8 Relevance of Other Forestry Policy Constraints

Of course, overly-prescriptive and bureaucratic regulations are not the only constraints to successful community forestry. Problems of industrial development policies which undervalue forest resources and uncertainty of tenure also tend to undermine incentives for SFM by communities and corporate concessionaires alike. Adequate rights of access are vital for local communities to invest their energy in forest management. Will the forest lease system allow long enough periods for harvest cycles? Agreement amongst stakeholders about the location of the outer boundaries of the forest management unit is an essential precondition. Are the boundaries consistent with the regional land-use spatial plan? Do the MoFr, the Ministry of Agriculture and the Regional Planning Agency (Bappeda) concur about community-based forestry land use. In short, without tenure clarity and certainty, SFM regulations, be they outcome-based or prescriptive, are unlikely to be effective.

Another policy-related factor that plays a role in local decision-making about natural resource use is relative resource value. Thus, might other uses of the forest be more profitable, such as conversion to agricultural use (e.g. to coffee or cassava in the Barisan highlands of Sumatra, to rubber in Kalimantan or to cocoa in Sulawesi)? If the answer is yes, neither tenure nor outcome-based regulation is likely to favour long-term natural forest management. This problem is exacerbated by industry policies which undervalue Indonesia's forestry resources to favour downstream wood industry (e.g. export restrictions on logs and sawn timber that depress domestic log prices to around half the world price).

In short, outcome-based regulation could provide an answer to only one of the three fundamental questions of developing the forest resource base in Indonesia --- How much is it worth, whose is it and how is it regulated? (Bennett 1996)

## 9. Conclusions

Outcome-based regulation of community forests provides the opportunity for regulators and other stakeholders to gain a better understanding of forest quality and future value than would highly prescriptive approaches like the regulatory framework applied to natural forest concessions. Outcome-based regulations would be simpler for community forest managers to follow and inspection agencies to monitor, creating a potentially more transparent system. The system would allow for site-specific adaptations and encourage innovation.

Conventional and prescriptive approaches to community forest regulation, on the other hand, run the risk of defeating their purpose, weighing down the local managers with an array of bureaucratic rules and thereby persuading them, albeit unintentionally, that long-term forest management is a less attractive option than (a) conversion to non-forest use or (b) simply turning their productive energy to other activities. What prospects are there, therefore, for going against the conventional wisdom of overly-prescriptive regulation of forest management? Then again, what are the alternatives?

Either a relatively small number of community forests, probably under government development projects and constrained by prescriptive and excessive bureaucracy

Or a large number of sustainable schemes run largely by the communities themselves and following a practical and transparent outcome-based system of regulations

The existing policy framework for natural production forest concessions is high-cost and of limited efficacy. Some have said it even favours bad practices because, at a price, there are ways around it, costly but cheaper than attempting to meet all the prescribed requirements. Outcome-based regulation would favour better-quality concessionaires. Introduction of such a system would have to be step-wise, perhaps initially put forward as an alternative not a replacement for the existing regulatory system. It would be attractive for the more capable and professional concessionaires. Failure to meet the standards of the alternative regulatory system would result in relegation to the current system. Ultimately, once shown to be practicable and beneficial, the alternative approach could be introduced as the primary regulatory mechanism for natural production forests.

At present, arguments for alternative approaches to forest regulation can only go so far. The principles of outcome-based regulation can be put forward. Convincing policy-makers of the need for change will, in part, depend upon successful demonstration in the field, showing how forest managers and inspectors could learn and be willing to implement the system.

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**Table 1. Potential Government-Approved Community Forests in Indonesia**

Forest Function	Total Area	Area with Forest Cover	Potential Candidate Areas
	1994 (m ha ) (1)	1994 (m ha ) (2)	1996 (3)
<b>Conservation</b> (National Parks, Reserves)	18 8	15 8	- Buffer & - Use-Zones of National Parks Highly selective logging, e g , <i>ulin / berlian</i>
<b>Protection</b> (Watershed Protection)	30 7	24 9	- <i>Hutan Kemasyarakatan</i> (Currently, only NTFP extraction is permitted)
<b>Limited Production</b> (& conservation)	31 3	25 3	- Ex-concession area, e g , NGO-Community Proposed TPTI or TPTI-like selective logging, Ex- <i>KPHP</i>
<b>Production</b>	33 0	26 4	- Ex-concession area, e g , NGO-Community TPTI or TPTI-like selective logging, Ex- <i>KPHP</i> - Ex-concession area, e g , (1) MoFr-GTZ's PFMA TPTI or TPTI-like selective logging, (2) MoFr-Harvard project enrichment cut logging
<b>Conversion Forest</b> (To non-forest status)	26 6	20 0	- <i>Hutan Rakyat</i> Logging ranging from clear-cut to selective - Other private forestry schemes
<b>Non-Forest</b>	52 6	6 6	--
<u>Totals</u>	<u>193 0</u>	<u>119 0</u>	--

Source

(1), (2) National Forest Inventory Project, 1994 cit. MoFr, draft IFAP (1996),  
(3) Study estimate

**Table 2 Regulations for a Natural Forest Management Concession in 1995**

Type /a/	Number of Decrees, Circulars, Laws /b/
CONSTITUTIONAL LAW (UU)	1
PRESIDENTIAL DECREE (Keppres)	2
GOVERNMENT REGULATION (PP)	3
MINISTER'S DECREE (SK)	10
DIRECTOR GENERAL'S DECREE/CIRCULAR (SK, SE)	37
LITBANG (SE)	1
KANWIL (SE)	12
DINAS KEHUTANAN (SE)	3
<b>Total</b>	<b>69</b>

Source  
Notes

Bennett et al 1997  
/a/ The various regulatory levels deal with land use mapping, planning, road building, logging, log transport, replanting community development. /b/ 95% of the above result in yearly quarterly or monthly reporting after field implementation. There about 14 monthly reports, four quarterly reports. Obtaining report / proposal approval related to an instruction may involve a few to several intermediate stages. The total of 69 instructions/regulations is probably an underestimate. The compiler of the regulations noted only three of the 20 instructions dealing with the Bina Desa Hutan / PMDH programme.

**Appendix 1.**

**List of Regulations Related to One Year's Management of a Concession  
in Kalimantan**