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# INITIATIVES ON ASSESSING SUSTAINABILITY: STATUS AND FUTURE DIRECTIONS

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*Summary of the Open Session of the Third  
International Project Advisory Panel (IPAP) meeting  
on Testing Criteria and Indicators for Sustainable  
Management of Forests, Turrialba, Costa Rica  
February 29 - March 1, 1996*

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## LIST OF ACRONYMS

ATO	African Timber Organization (ATO)
C&I	criteria and indicators
CATIE	Centro Agronomico Tropical de Investigación y Enseñanza
CCAD	The Comisión Centroamericana de Ambiente y Desarrollo
CIFOR	Center for International Forestry Research
CSA	Canadian Standards Association
FAO	Food and Agriculture Organization of the United Nations
FCP	Forest Conservation Programme
FMU	forest management unit
FSC	Forest Stewardship Council
IPAP	International Project Advisory Panel
IPF	Inter-governmental Panel on Forests
ISO	International Standards Organisation
ITTO	International Tropical Timber Organization
ITW	Initiative Tropenwald
LEI	Lembaga Ekolabel Indonesia
NARS	national agricultural research systems
NGO	non-governmental organisation
SCS	Scientific Certification Systems
SFM	sustainable forest management
UBC	University of British Columbia
UNCED	United Nations Conference on Environment and Development
UNCSD	United Nations Commission on Sustainable Development
WCMC	World Conservation Monitoring Centre
WWF	World Wide Fund for Nature

## FOREWORD

The need to develop reliable criteria and indicators for sustainable forest management has been recognised at least since 1990 when initiatives to introduce certification of timber from sustainably managed forests began in the United States. In the following years interest in criteria and indicators has grown rapidly, especially at the national and international levels. Parallel developments took place in a less co-ordinated fashion at the Forest Management Unit (FMU) level, especially in the wake of several new initiatives on certification of timber from sustainably managed forests.

In August 1994 the Center for International Forestry Research (CIFOR) initiated a research project to evaluate criteria and indicators for sustainable forest management at the FMU level, in an effort to bring scientific research to their development. This research project is guided by an International Project Advisory Panel (IPAP), which met for the third time in Turrialba, Costa Rica from February 26 to March 1, 1996 to review the results of the first 18 months of the project. The IPAP brings together an important section of the various institutions involved in the development of criteria and indicators at the FMU level.

This IPAP meeting presented an ideal opportunity for several of the leading initiatives on sustainability assessment and certification to come together for an exchange of information in a year dotted with international conferences on certification and criteria and indicators tools, all of which are taking place under the umbrella of the Intergovernmental Panel on Forests (IPF). Accordingly CIFOR and the Centro Agronomico Tropical de Investigación y Enseñanza (CATIE) took the initiative to organise a two day workshop on 'Status and Future Directions of Current Initiatives on Assessing Sustainability at the Forest Management Unit Level' at Turrialba, Costa Rica. The meeting was also convened to provide feedback to CIFOR and other institutions involved in the development of sustainability assessment tools on what research should concentrate on in the future.

The report that follows is based on the proceedings of this workshop, which consisted of five panel discussions and involved 26 presentations from twelve countries. It consists of an essay on the current status and future directions of the assessment of sustainable forest management, based to a great extent on the findings of two work-

ing groups with the same title. The essay also incorporates important points raised during the panel discussions, although only twelve of the presentations have been summarised in the following section.

The workshop exceeded our expectations. It highlighted the diversity of the groups involved in certification and criteria and indicators development, as well as resulted in very useful guidance from practitioners on the areas research on criteria and indicators should focus. It further revealed a growing convergence of approaches to assessing the sustainability of forest management and the great benefits to be gained from sharing information and co-ordinating efforts.

## **Acknowledgements**

We would like to thank the organisers, CIFOR and CATIE for providing the logistical, organisational and conceptual frameworks for the workshop. We also thank all participants for their contribution to the success of the workshop. Many of them travelled long distances to share in the discussion; we appreciate both their time and great effort spared to fulfil this commitment. Finally our special thanks to the European Union, under their Tropical Forests budget line and US-AID for their financial support, which made the IPAP meetings possible. This booklet has been produced from funds granted by the European Union.

Lukito Daryadi  
Chairman  
International Project Advisory Panel

# OUT OF THE WOODS? ASSESSMENT OF SUSTAINABLE FOREST MANAGEMENT

*Ravi Prabhu, Lay Cheng Tan<sup>1</sup>*

## **A Crisis for Decision Making**

Formal decision making in forestry developed over a period of more than 400 years in a context where planning horizons had to be long and with the evolving understanding that forests were more than the simple sum of their parts. Management tools developed within this context were conservative, robust and oriented towards minimising risks in an uncertain environment (e.g. Kraft 1884, Heske 1938, Dawkins 1958, Neil 1981, Hirata 1983, Vanclay 1992).

The dilemma for forestry began in the late fifties as demand for forest resources increased and management objectives became more diverse. By now most decision and assessment tools had become inadequate for presenting management with the complete picture (e.g. Dargavel and Simpson 1985, Kuusipalo and Kangas 1994) In a rather ironic twist of the proverb, foresters were capable of seeing the trees and the forests, but this was no longer sufficient. The dawning understanding in the seventies and eighties of the need to include maintenance of biodiversity as an additional objective has only made the crisis more serious. A situation that forest management still faces today. This crisis has been further exacerbated in the tropics by the sheer complexity and diversity of the ecological and social systems prevalent there.

Efforts to find a way out of this dilemma have to concentrate on providing forest managers with relevant, cost-effective and readily understandable information based on simple assessment techniques. Assessment in the context of sustainable forest management is the

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<sup>1</sup> This paper builds on the two working group reports of the concluding session of the CIFOR-CATIE workshop. The authors acknowledge the contribution made by Dr. Andrew Howard (University of British Columbia) and Dr. Dennis Dykstra (CIFOR) to these reports.



process by which information about forest management is collected with a view to establishing, within a defined framework of expectations, the current status and probable future direction of the interactions between human beings and forests, using certain criteria and indicators<sup>3</sup>. Criteria and indicators are tools which can be used to conceptualise, evaluate and implement sustainable forest management. They may be identified at various levels: global, regional (and eco-regional), national, and local, *i.e.* for our purposes, the forest management unit level.

The development of criteria and indicators at the forest management unit level has been largely spurred by the desire to assess sustainability and to a lesser degree to develop tools to facilitate the implementation of better management practices. On the other hand national level criteria and indicators have been developed essentially as reporting and monitoring instruments, not as standards with which to assess sustainability. It is important to understand that just as it is unlikely a single set of criteria and indicators will apply uniformly across the globe, it is equally unlikely that a set of criteria and indicators developed for the national level will be meaningful at the forest level.

Probable users of criteria and indicators will include certification bodies interested in the best ways to assess timber management for certification purposes, government officials trying to design more sustainable policies pertaining to forestry and other related sectors, donors wanting to evaluate the sustainability of the activities undertaken by various natural resource management projects, forest managers wanting to improve the sustainability of their management at the forest management unit level, project managers trying to plan, implement and evaluate their own conservation and development projects, and scientists interested in the causal links among ecological, forestry and human factors of sustainability.

## **Current Status of Assessment Initiatives**

Although the development of techniques to assess performance against sustainable forest management commenced almost simultaneously with the recognition of the decision problem, it was only in the nineties that these efforts have gained an international momentum. The

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<sup>3</sup> After Prabhu *et al.* (1996).

CIFOR-CATIE workshop on 'Current Status and Future Directions of Sustainability Assessment Initiatives' brought together a cross-section of these important new initiatives on assessment of sustainable forest management and certification of forest products. Two recent phases in the development of the assessment of sustainable forest management and certification of forest practices were recognised at the workshop.

The first phase (1990-94) is characterised by an explosion of initiatives and a preoccupation with the development of criteria and indicators by a variety of both national and international groups. This resulted in the independent development of sets of principles, criteria and indicators in an uncoordinated fashion at four or five different levels (international, regional, national, local, forest management unit) leading to considerable confusion with the definition of terms (principles, criteria, indicators, and now verifiers). With a few notable exceptions, not enough attention has been paid to decision making frameworks for the application of principles, criteria and indicators in assessment activities.

The second phase started sometime in 1994 with efforts to share information among the regional, political criteria and indicators processes, and is gaining momentum with the creation of the UNCSD Inter-governmental Panel on Forests (IPF) in 1995. Efforts to consolidate and harmonise the dispersed initiatives for development of principles, criteria and indicators characterise this phase. The goals of these efforts towards harmonisation are connected but vary depending on the level. In general they all strive to promote consistency and comparability among users (regions, countries, localities, certifiers).

The levels at which criteria and indicators are being developed are discussed briefly below, including examples of organisations which are taking the lead at each level, the major objectives at each level, and the relationships among the various levels.

### ***1. International level***

The IPF and the FAO are currently the key players at this level. The objectives are to harmonise and assess the comparability of principles, criteria and indicators among nations to determine progress towards complying with multi-national agreements on the conservation of biological diversity and management of forest resources. This level is connected to lower-level initiatives through direct reporting or co-operative projects involving regional and national level activities.

The 1992 UNCED Conference underlined in the “Forest Principles” (the Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests) the need to reconcile the productive functions of forests with the protective, environmental and social roles they fulfil. In Chapter 11 of Agenda 21 of UNCED, “Combating Deforestation”, governments, in co-operation with special interest groups and international organisations, agreed to pursue *“the formulation of scientifically sound criteria and guidelines for the management, conservation and sustainable development of all types of forests”*.

The development of criteria and indicators for sustainable forest management was identified as being among the major tasks and priorities for the IPF, established in April 1995 within the framework of the UNCSO. The IPF is to *“encourage national implementation of criteria and indicators for sustainable forest management and study the feasibility of further developing internationally agreed upon criteria and indicators against which progress towards sustainable forest management of all types of forests could be measured, taking into account the specific regional and sub-regional conditions of forests and the diversity of economic, social and cultural environments”*.

FAO has been taking a more active role in forestry issues promoting sustainable management as a top priority. It is developing specific, practical approaches to forest utilisation and to assessment of environmental impacts and economic contribution of forest operations. It has submitted a report on harmonisation of standards to the IPF, comparing standards produced by the political processes. FAO is also developing a “model” code for forest harvesting and a manual for sustainable forest management practices. This code will include provisions for harvest planning, forest roads, felling, extraction, long distance transport and post harvest assessment.

## ***2. Regional level***

Based on the ideas incorporated in the Rio document the ITTO, Montreal<sup>4</sup>, Helsinki<sup>5</sup> and Tarapoto<sup>6</sup> processes, to name a few, have

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<sup>4</sup> *Signatories to the Santiago Declaration.*

<sup>5</sup> The pan-European process as defined in the two Ministerial Conferences on the protection of Forests in Europe.

<sup>6</sup> Amazon Co-operation Treaty signatories.

striven to define criteria and indicators for sustainable forest management at the national or supra-national levels<sup>7</sup>. These processes have been driven by policy makers, with scientific and technical input taking a back seat.

The Montreal process functions through a working group focusing on temperate and boreal forests, with the first meeting being held in 1993. Emanating from a series of technical meetings among ten developed and developing countries,<sup>8</sup> seven criteria covering a number of issues were identified. Follow-up on selecting indicators for these criteria is in process. The Helsinki declaration is similar to the Montreal process but confines itself only to Europe. Yet, it also recognises the global dimensions of European forests and is prepared to “participate in, and promote, international activities towards a global convention on the management, conservation and sustainable development of all types of forests”. It also lays great emphasis on targeting the rural sector and poorer European countries. The third initiative, the Tarapoto process, took place in 1995 to ensure the continuation of a way of life particular to the countries of the Amazon Co-operation Treaty (Tratado de Cooperación Amazónica - TCA).<sup>9</sup> The proposal contains twelve criteria with several indicators each for measuring sustainability of the Amazon forests. This initiative provides the Amazon countries with their own version of how sustainable forest management suitable to their diverse environmental conditions can be achieved.

In addition to the three inter-governmental initiatives mentioned above, other initiatives such as the countries in the Sub-Saharan Dry-Zone of Africa<sup>10</sup> are seeking to define criteria and indicators at the regional level. Similarly efforts are being undertaken by the African Timber Organization (ATO) for timber countries in West and Central Africa. The Comisión Centroamericana de Ambiente y Desarrollo (CCAD) is undertaking a similar initiative for Central American countries.

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<sup>7</sup> Grayson, A.J. Ed. 1995: "The World's Forests: International Initiatives since Rio". Special publication by the Commonwealth Forestry Association, Oxford Forestry Institute.

<sup>8</sup> Australia, Canada, Chile, China, Japan, Korea, Mexico, New Zealand, Russia and the United States.

<sup>9</sup> Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Surinam & Venezuela.

<sup>10</sup> CILSS, IGADD and SADC countries.

The main objectives of these initiatives are to permit individual nations to report progress in a multi-national forum to insure compliance with agreements to which they are signatories and to perform the work and present the results needed at the international level.

### ***3. National level***

At the national and sub-national levels, a variety of governmental and non-governmental initiatives are seeking to define criteria and indicators for sustainable forest management. Prominent among these are the efforts of the Lembaga Ekolabel Indonesia (LEI) in developing a certification system, the Canadian Council of Forest Ministers (1995), the World Conservation Monitoring Centre (WCMC) on indicators of habitat quality, the World Wide Fund for Nature (WWF) in defining criteria for forest quality and authenticity, and the Greenpeace Principles and Guidelines for Ecologically Responsible Forest Use.

Summaries of some of these initiatives are found in the next section of this report. Briefly, LEI started in late 1993 to establish a set of criteria and indicators for Indonesia. However, it also strives for compatibility with other ecolabelling systems and recognition for its certification scheme from other countries.

Although non-governmental initiatives such as WCMC, WWF and Greenpeace devote much attention to international issues, they actively seek and incorporate input and support from their global network of national partners and collaborators. For instance, WCMC aims to integrate various conservation data and deliver appropriate products to decision makers at all levels through the design of its research projects with national counterparts. One particular activity, which selects and evaluate indicators of tropical forest condition and vulnerability, involves case studies in Uganda, Sri Lanka, Ghana and Ecuador. WWF is another example of an organisation trying to address national concerns in concert with its global mission to promote sustainable forestry as a fundamental responsibility of global resource management. It seeks to influence both national and international agreements and processes, as well as create voluntary market incentives through certification and ecolabelling. The Swedish branch of WWF started its certification process in 1992 and promotes a multi-stakeholder approach to develop a standard for Swedish forestry. Along the same lines, Greenpeace promotes ecologically and socially responsible forest use through various combinations of project and market development and

policy initiatives. It has developed its own Principles and Guidelines for Ecologically Responsible Forest Use in 1994. Its efforts cover several countries in different regions of the world.

Apart from some of these more obvious demarcation of initiatives, an overarching layer which in many ways cover the international, regional and national levels should be mentioned. The International Study Group on Sustainable Forest Management under the auspices of the International Standards Organisation (ISO), ITTO's Forest Management Guidelines and the Forest Stewardship Council's (FSC) Principles and Criteria are such three conceptually similar development umbrellas. The ISO, a world-wide non-governmental organisation, has a mission to promote the development of standardisation in many fields. Ensuing from the UNCED in 1992, ISO created a technical committee, TC 207, to develop the 14000 environmental management series standards and guidelines for sustainable forest management. Management for this activity was delegated to Canadian Standards Association (CSA), and the standards are meant to be national in scope but flexible enough for regional variations. ITTO's "Objective 2000" targets for trade in tropical timber to come only from sustainably managed sources by the year 2000. ITTO has issued forest management guidelines for the management of natural forests and plantations with the purpose of providing an international reference standard for all producer and consumer countries and is also involved in developing nation specific criteria. The FSC, founded in 1993, intends to promote good forest management by evaluating and accrediting certification bodies and by encouraging the development of national and regional forest management standards in addition to supporting certification initiatives world-wide. The FSC's Principles and Criteria apply to all tropical, temperate and boreal forests, plantations and replanted forests. The two main objectives of initiatives at this level identified by workshop participants were to guide local application to promote consistency and improve credibility, and to inform regional initiatives.

#### ***4. Local or forest management unit level***

At the level of forests and forest management units the development of criteria and indicators has been influenced to a lesser degree by Agenda 21. The motor for development at this level has been the introduction of independent third party certification of timber from sustain-

ably managed forests. The actors in this discussion have been international and regional non-governmental organisations and, to a lesser extent, the industry. With very few exceptions, Indonesia being one, governments have until very recently taken a back seat. There are signs that this will change. The certifiers are the major players at this level (Rainforest Alliance, The Soil Association, SGS Forestry, Scientific Certification Systems, LEI). Standards organizations such as the Canadian Standards Association (CSA) are also active at this level. In 1994 it was given the responsibility of developing a sustainable forest management standard for Canada (Z 808) and expects to complete this task by 1996; but it also urges the establishment of an international standard to avoid confusion that may result from the proliferation of standards.

Finally CIFOR and other research organisations are also involved in aspects of the development of criteria and indicators. The objectives are to promote good forest management amongst practitioners. The institutions concerned may be non-profit organisations such as Rainforest Alliance or commercial ones such as SGS Forestry and SCS. This is the level the CIFOR-CATIE conference focused on. The development of criteria and indicators at the forest level has seen a higher degree of technical input, but has also seen a division of the actors into those who prefer the development of certification based on performance standards and those who prefer a process oriented approach along the lines of an ISO 14000 environmental management system norm.

Rainforest Alliance began its Smart Wood Certification Programme as an independent third party to certify well-managed and sustainable sources of timber, as well as companies that sell certified wood in raw or finished forms in the US and Canadian markets. The Soil Association, an environmental NGO, set up its Responsible Forestry Programme in 1992 to certify timber through its Woodmark scheme. The standards developed are intended to be generic and applicable to natural forests and plantations in all regions. Initiative Tropenwald (ITW) was also founded in 1992 to set up regulations for the labelling of tropical timber and other tropical forest products in Germany, using ITTO guidelines. The timber industry issued a declaration to implement these regulations as soon as possible. SGS Forestry is part of the SGS Group, a private international inspection, verification, testing and certification organisation. It manages the QUALIFOR programme designed to recognise quality forest operations, stipulating that the forest management unit is assessed accord-

ing to its compliance with QUALIFOR Programme requirements which include elements of the FSC's Principles and Criteria. SCS, also a profit enterprise, set up a Forest Conservation Programme (FCP) in 1991 to evaluate forest operations independently. FCP has uniform guidelines for assessing natural forest management, but is including criteria for evaluating plantation forests too.

## **Contribution of Research**

Although much progress has been made towards the development of assessment standards during the last few years, the workshop recognised that much still needs to be done. CIFOR, CATIE and WCMC are some of the organisations involved in carrying out research to improve assessment capability.

Since 1994 CIFOR is leading a research project on testing criteria and indicators for the sustainable management of forests involving several governmental and non-governmental partners in industrialised and developing countries. This project seeks to assess the validity of using a criteria and indicators based approach to evaluating sustainability of forest management at the forest management unit level. Four categories of criteria and indicators formed the bases for the test - policy, management, ecology and social. General findings disclosed significant commonalities among the five sets of criteria and indicators being tested, with the social criteria and indicators being more site specific while the ecological criteria and indicators were more generic. The results also highlighted the need for further elaboration of the social and ecological criteria and indicators and other concepts. The proposed "tool-box" approach to the assessment of sustainable forest management was considered to be useful. It is not simple to define and maintain a consistent hierarchy between principles, criteria, indicators and verifiers, nor to apply the definition of forest management unit universally. These views were shared by workshop participants. In response to the need to consider the social elements, CIFOR initiated a complementary activity to address this point. A conceptual framework was developed to understand the social features of a forest management system, generate new criteria and indicators and produce tools for defining forest people. A major issue was to determine who the target groups should be, i.e. "who counts". Future plans in this area include research to test linkages postulated in the conceptual framework, refine the dimensions for



identifying the important stakeholders, develop definition of social sustainability and extend the tests to forests managed by local communities.

One CATIE research activity initiated in 1991 attempts to study the dynamics of plant biodiversity in tropical rain forests managed for timber production, to relate changes to management operations in general and determine contributions of individual management activities in particular. The project also aims to develop methods for practical monitoring of plant biodiversity in terms of these management operations. WCMC is similarly involved in many research projects on conservation and biodiversity. Its joint activity with the Overseas Development Agency tests the effectiveness of candidate indicators in predicting changes in biodiversity over time. The role for research is therefore to clarify assumptions and provide a logical basis for analysis, produce new information and tools, sharpen and clarify debates. All three provoke and challenge thinking.

In conclusion, the workshop participants recommended future research should address the following areas:

### ***1. Definitions***

- develop clear and operational definitions for many of the terms which are commonly used in criteria and indicators. In addition to the more technical terms, such as “criteria” and “indicators”, even terms like “local people” and “indigenous people” are used in vague and confusing ways.

### ***2. Gaps***

- put more emphasis on social impacts (including gender issues) and ecological assessment (including biodiversity);
- ensure that economics, not only of operations but also in relation to economic development, are properly considered;
- identify “minimum” criteria for assessing issues relating to forestry, ecology, social impacts, and economics. Elaborate these minimums by region or forest type wherever possible. Identify precautionary measures which might be used as guidelines when data are lacking.

### ***3. Research Process***

- be more strongly oriented towards and linked with the needs of potential users such as developers of criteria and indicators and standards, forest managers and general education and training audiences;

- incorporate field work to ensure that there are “reality checks” on research;
- attempt, to the extent possible, to collate and validate grey literature, “foresters’ wisdom”, and the knowledge of local and indigenous people;
- make use of processes which have been put in place through the Convention on Biological Diversity. The political commitment made by many countries to these processes by signing the Convention will be an important asset;
- use national agricultural research systems (NARS) to help identify problems and undertake research; also use them to develop regional advisory and support mechanisms;
- recognise that it is sometimes easier to identify bad practices rather than good ones. To the extent possible a positive orientation should be maintained, but where prescription is more sensible this should be pointed out.

#### ***4. Research Outputs***

- provide comprehensive listings of criteria and indicators that have proven useful in different contexts, separating those which are generically applicable from those which are more site-specific;
- develop procedures to permit forest managers to compare treated with untreated forest areas. One way of doing this is to leave representative areas of forest untreated so that they can be measured over time as control populations;
- develop tools to identify different “grades” of forest management, for the certification process, which through continual improvement will lead in a stepwise fashion to full certification of sustainability;
- consider issues related to scale such as the links between national and forest management unit level criteria and indicators, community management issues, ecosystem versus forest management unit, and develop tools for sensitivity analysis to determine situations in which consideration of scale is essential, and those in which it is not important.

#### ***5. Criteria and Indicators Based Assessment Toolbox***

- in developing the CIFOR “criteria and indicators toolbox”, consider ways to help assessors think through what they are trying to accomplish in the assessments. It is important to remember that the objective is sustainable forest management, not certification. Workshop participants felt that most of the recommendations listed above merited inclusion in a “tool-box” approach to assessing sustainable forest management.

The workshop recognised that sustainable forest management at the forest management unit level cannot solve all problems relating to tropical forests. For instance, many social problems result from long-standing inequities within a country or region that cannot be eradicated simply by improving forest management. But some social problems are affected directly by forest operations and thus, at least in theory, these problems could be solved or ameliorated through improved management practices. Among the many social problems relating to tropical forests, it is therefore most important to identify those which can be improved and to develop technologies, policies, and incentives which will help solve these problems. The workshop also recognised the potentially important role certification could play in this process. In an interesting project SGS Forestry and IIED are working on a practical manual for forest concessionaires on the implementation of forest stewardship standards. This manual will seek to explain to forest managers what is understood under good forest stewardship today and how this can lead to certification (Nussbaum, pers. communication). The first step however is to be able to carry out a reliable, transparent and cost-effective assessment.

## **Learning from Little Red Riding Hood**

The parallels between the current status of sustainability assessment and Little Red Riding Hood's quandary when faced with her big decision are striking. Little Red Riding Hood, like the initiatives listed above, used indicators, such as the hands, voice and teeth to decide whether it was actually her grandmother she was seeing in front of her. But rather like the current situation of sustainability assessment, she had poorly defined performance thresholds for these indicators:

“Grandmother, grandmother what big teeth you have.”

It would have been a great deal better for her to have concluded that Grandmother's teeth were too big. This precarious situation was compounded by her inability to draw an appropriate conclusion based on these indicators until it was too late:

“All the better to eat you with,” said the Big Bad Wolf and jumped on her.

Although much progress on indicators and performance thresholds have been made in recent years, there is still a need to improve our facility to reach holistic decisions based on them. Until then we are faced with uncertainty about the correctness of our decisions. The outcome will surely be unsustainable, if like Little Red Riding Hood the decision is forced on us because the alternatives have slipped away.

To conclude, assessment of sustainable forest management needs to be developed further if it is to be a reliable, transparent and cost-effective tool for decision making. This development will need to concentrate mainly on the gaps both 'inside' the 'woods' like biodiversity and ecological processes, and 'outside' them on the people who use and impact upon them. Nonetheless, as the workshop revealed, with the energy, diversity and creativity of the various initiatives it is only a matter of time before the assessment of sustainability is out of the woods: however, time is running out.

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# FOREST CERTIFICATION - A SWEDISH PERSPECTIVE

*Anders Lindhe*

As an environmental non-governmental organisation (NGO), it is a World Wildlife Fund (WWF) mission to promote sustainable forestry as a fundamental responsibility of global resource management. To accomplish such a goal, a two pronged approach by influencing national and international compulsory agreements and processes and creating voluntary market incentives for progressive producers through certification and ecolabelling are recommended. The former option is slow and tedious while the latter is more promising in bringing about faster changes.

The Swedish certification process started as a WWF co-ordinated initiative in late 1992. An informal group consisting of different stakeholders was put together to broaden the discussion. Issues mostly centred around the demand for certification and various relevant indicators of forestry performance. In the beginning of 1995, WWF and SSNC, another major Swedish environmental NGO, joined forces and took on a broad consultative process. A document was presented at the "Forests for Life" conference in Stockholm. It contained two parts which addressed the goals of sustainable forestry in one and the standard in the other. Further efforts after the meeting were directed towards the establishment of a multi-stakeholder Forest Stewardship Council (FSC) working group. This proved to be a strenuous task, partly due to mutual distrust between foresters and environmentalists. To improve the basis for consensus decisions, all involved parties were asked to sign a declaration supporting FSC objectives, principles and working guidelines, and eventually a group was formed with the explicit task of developing a standard for Swedish forestry for endorsement by the FSC.

It should be noted that certification and ecolabelling are concepts potentially most powerful in the environmentally conscious markets in North America and Western Europe. They are also market driven incentives, and no better long term performance could be achieved within the system than by the consumers who are willing to pay for the products in one way or another. To gain wide acceptance and adher-

ence, a certification system must therefore fulfil a number of basic requirements. First, it should be credible to consumers which translates into achievement of certain environmental and social performances. It is necessary that adherence to the standard, based on voluntary compliance, is legally binding for a certain length of time and that the performance is controlled by a third party. To sustain credibility in the long run and to avoid abuse of the system, the performance of the certifiers themselves must be subjected to continuous evaluation through licensing or accreditation mechanisms. A second factor to be considered is the operation and cost effectiveness of certification. Too expensive or complicated procedures will probably gain little support and thus fail in the long run. Producers, foresters, manufacturers and retailers should all contribute to the process of setting the standard and provide input on related issues. The certification system should also be dynamic and able to incorporate new knowledge and experiences to allow for continual revisions to keep the standard up to date. Such revisions should be done in the same multi-stakeholder approach involving all concerned parties. Although several national or regional approaches to certification exist, the system must also be built within an international framework. Such a system should unite different producers with acceptable forest practice standards under one single, easily recognisable trademark. In considering these requirements of a certification system and the process of developing standards, WWF together with other major international environmental organisations such as Greenpeace and Friends of the Earth, have identified FSC as the one with the existing framework to potentially fulfil the demands of a credible forest certification.

In conclusion, although Sweden has taken more than three years to get various stakeholders together to co-operate towards seeking a consensus, the time has not been wasted. During the frequent meetings and seminars, substantial mutual understanding has grown among these antagonists to dissipate some of the distrust. The group is now in a position to produce a standard to benefit both forests and forestry.

# CONSERVATION OF TROPICAL FORESTS BY SUSTAINABLE MANAGEMENT: INITIATIVE TROPENWALD

*Peter B. von Fürstenberg*

The INITIATIVE TROPENWALD (ITW) was founded in 1992 to strengthen the development of sustainable forest management in tropical countries through trade related instruments. It aims to set up regulations for the labelling of tropical timber and other tropical forest products coming from sustainable management by 1995. In its "Joint Declaration on the Protection of the Tropical Forests", the German timber industry announced its intention to implement such regulations as soon as possible to support companies and countries engaging in environmentally sound sustainable management of their resources and to oppose a destructive overexploitation of the forests.

ITW is supported by the Trade Union Timber and Plastics, the Central Federation of German Timber and Plastics Processing Industries and the German Timber Importers Federation. Its Project Committee is responsible for the activities of the initiative, while the Technical Committee, as an independent advisory board, works on the basic requirements and standards for the assessment of sustainability. ITW's principles promote co-operation but not confrontation, employ economic incentives but not sanctions, provide practical support and encourage the use of renewable resources where possible.

The labelling regulations prepared by ITW are to promote the interest in conservation of the forests and to provide information to consumers. These regulations have to be acceptable and encouraging for the producer countries. The ITTO guidelines provide the basis for the labelling since this standard is recognised by these countries. Further, the regulations should be practical and applicable. They also have to be flexible to meet different requirements and conditions of production. A transparent control procedure is necessary as are effective and un-bureaucratic inspection procedures which should include the right for unscheduled inspections.

ITW has also developed proposals for the structure and procedure of timber certification which is considered as a market oriented incen-



tive for sustainable forest management (SFM). The three components of timber certification are the certificate on the quality of forest management (statement of compliance) issued in the country of origin, the monitoring of the correct use of the certificate at all levels, and the trademark given to the certified timber guaranteeing proper management compliance at all stages. A Trademark Association has been established in the meantime by ITW.

In general, several basic conditions are necessary for conservation and sustainable management of tropical forests, e.g. minimisation of the conversion pressure on the forest, increase in the economic value of the forest by sustainable exploitation of its products and creation of extensive protection forests. The national forest laws and land use planning as well as the programmes under the 'Tropical Forest Action Plan' are important for the creation of these conditions. The main problem, however, is not the designation and stipulation of different forms of use, but their implementation. The involvement of the local population will mobilise the interest in the protection and conservation of the forest. The forestry and timber industry can only make a limited contribution to implement these conditions, but sustainable management of the tropical forests can give an impulse to the improvement of the relevant conditions.

Timber certification should be integrated into a national strategy for the conservation of forests. The producer country will be responsible for the statement of compliance, while the Trademark Association monitors the use of certificates in the consuming countries and is responsible for issuing the trademark for certified timber. Rather than having different trademarks, a unified trademark would reduce confusion to both consumers and producers as well as provide the best legal protection for the certificates. Co-ordination between the Trademark Association and the national certification bodies is necessary. Furthermore, the standards, criteria and procedures for the evaluation of SFM should be internationally recognised and the success of timber certification depends on the credibility of the system. It is imperative that the certification structure is impartial, and involvement of all interested and concerned parties has to be balanced. The Forest Stewardship Council has gained support for its accreditation role and certifiers not accredited by the Council will not find easy acceptance into the European market.

# **STATUS OF THE AFRICAN TIMBER ORGANIZATION INITIATIVE TOWARDS A “GREEN LABEL” FOR AFRICAN TIMBER AND WOOD PRODUCTS**

*Jean-Marc Bouvard*

The objectives of the African Timber Organization (ATO) initiative are mainly to propose a definition of sustainability in the context of African forests, establish a set of criteria and indicators (C&I) relevant to this definition and define a certification scheme on this basis. This initiative came about as a result of international commitment to sustainable forest management (SFM) and the recognition of the utility of certification as a tool to encourage SFM. It is also a response to initiatives from the “North” towards certification apart from its role as an answer to the threat of a boycott.

Action for information and sensibilisation started in 1993 and ended with a round table discussion. A study was conducted in conjunction with France/European Union on SFM and certification in 1994, followed by participation in CIFOR’s C&I project in Ivory Coast. A working group was established in 1995 with plans to examine the results of the CIFOR project, current initiatives on C&I and certification. The group also aims to define SFM within the African context, to propose more precise principle and C&I, as well as design a certification scheme for “green labelling” for Africa. This proposal is to be submitted to the next Ministerial Conference in May 1996.

It is recognized that SFM and certification are complex issues. It is therefore not surprising that consensus among the thirteen member countries is not easily reached. That an agreement on the “idea” of implementing a “green label” is found indicates a strong commitment towards SFM. The complexity of the issues also compels the countries to first study and appreciate the various implications of SFM and certification before addressing the technical debate on the subjects. This will be done in the near future, with participation of all stakeholders.

Some initiatives from the North have yet to consider it important to work closely with the governments who, as forests owners, are the main stakeholders and guarantors of sustainability in the long term.

These initiatives now appear willing to discuss and adopt their C&I at the national level, thus providing a good opportunity for cooperation in the right direction. In any case, ATO and member countries will remain opposed to initiatives based on bilateral discussions between NGOs (including certifiers) and private forest companies, whose main purpose is often certified wood, and not, as it should be, SFM.

Another difficulty is in correctly matching the different levels of applicability of the SFM. The ATO process is regional but it has to rely on specific C&I at the national and/or local level. Still, in parallel with this difficulty is an opportunity: the reflection at the regional level is propelling the cooperation among ATO member countries and the regional integration by favouring the harmonisation of forest policies and legislation, among other issues.

The member countries have stated that ATO should be the “authority of the label”. The role ATO should assume needs further clarification and examination: should it be the certifier? will it have the capacity and/or the credibility to do it? The underlying thought is that ATO should play a major role yet to be defined.

Nevertheless, despite the urgency of such efforts, directions for SFM should not be forced and hurried which might lead to making the wrong decisions. It should be remembered that the target 2000 is an objective as is SFM. Taking time for careful consideration and making the right decisions cannot be underestimated.

The on-going process by ATO indicates a strong commitment of the member countries to SFM. The “green label” initiative is extremely positive and should be supported by the international community in general and by the stakeholders (e.g. private sector, NGOs) in particular. Such a strong commitment of cooperation in the forest sector from a regional intergovernmental organisation is the guarantee of a positive evolution towards SFM (for example in policies and legislation) which would not occur with the implementation of an “imported” certification scheme.

# **GREENPEACE PRESENTATION: DISCUSSION ON STATUS OF SUSTAINABILITY ASSESSMENT INITIATIVES**

*William Barclay*

Greenpeace actively promotes ecologically and socially responsible forest use in all major forest types through various combinations of project and market development and policy initiatives. In April 1994, Greenpeace released its own Principles and Guidelines for Ecologically Responsible Forest Use. Guidelines for land areas under fast-growing plantations such as are found in New Zealand, Brazil, Spain or Chile were developed. Eco-forestry projects consistent with these guidelines have been established in Germany, Austria and Canada, and work is underway in the Solomon Islands and Papua New Guinea. Greenpeace International is also a founding member of the Forest Stewardship Council (FSC), and various Greenpeace national offices participate in FSC's development of national standards.

Natural forests, also sometimes referred to as "high authenticity" forests, must always be the reference point against which forest use is being measured. Built into Greenpeace's Principles and Guidelines is a strong focus on protected area networks at the landscape level and set-aside "reference areas" at the stand and forest management unit levels. Forest use is then compared against such reference sites by inventories and assessments before and after removals in order to determine the impacts of the logging operations. The intention is to minimise deviations in the forest use areas from key ecological elements of the natural forest. The value of the reference sites at the management level in degraded forest areas increases through time as they take on more of the characteristics of natural forests. When establishing reference sites and management objectives, the rough parameters of these components must be partly conjectured from the literature and research on the ecology of similar natural forests elsewhere. Increasingly the reference sites themselves will express these characteristics and provide the forest manager with a readily accessible and ecologically invaluable point of comparison.

The reference area approach ensures that forest managers do not throw out the “blueprint” of natural forests even as they use forests. Comparative natural history observation is an essential foundation for generating testable forest biodiversity assessment indicators, and reference areas give forest managers regular opportunities to do so. In the same way that forest use areas can be compared to the non-use reference areas at the management unit level, the relative “authenticity” of the reference areas themselves can be compared to the larger size natural forests which are set aside at the landscape level in protected area networks.

At this stage of the scientific knowledge about forest biodiversity, we remain profoundly ignorant. Much work is needed to complete even basic forest inventories and species descriptions, much less begin to untangle their many interactions and relative importance for ecological functioning. Present assessment indicators for biological diversity will change as we learn more in the future.

It has been suggested that a “co-operation” strategy between industry, environmental and social NGOs would alone be a sufficient and preferred route for promoting effective change in forest practices. Through Greenpeace’s partnerships with a diverse variety of stakeholders, the joint development of a number of eco-forestry alternatives rates as one of our many successes. These are the outcome of our non-violent “confrontation” campaigning against destructive forestry practices, such as clearcutting and “predatory logging”. “Confrontation” strategies against ecologically and socially destructive logging for international markets are a key driving factor in creating the markets for independently certified forest products. A first step for change is through informed consumer boycott of products from destructive forest practices sending a wake-up call throughout the forestry industry.

None of us would be here today, and certification as an alternative would not be as developed as it is, if it were not for the real impact of these “confrontational” campaigns. “Confrontation” initiatives remain a strong motor for change, and therefore an important ingredient to enhance the status of sustainability initiatives. Both confrontation and co-operation approaches are needed if long overdue changes in forestry practices and levels of forest protection are to be achieved.

# TESTING OF CRITERIA AND INDICATORS OF SUSTAINABLE FOREST MANAGEMENT IN AUSTRIA

*Josef Hackl*

The Austrian test, funded by the Ministry for Environment, was set up to contribute to CIFOR's own test on criteria and indicators (C&I) of sustainable forest management (SFM), using the methodology developed by CIFOR, and to define problems encountered. It also aims to adapt the compiled set of principles, criteria and indicators specific to the Austrian situation. The results should also contribute to the international debate on defining sustainable forest management.

In 1992, a federal law for the labelling of tropical timber and timber products and the creation of a (voluntary) quality mark for all timber and timber products from sustainably managed forests was passed in Austria. This was amended a year later to exclude the mandatory labelling but retain the voluntary quality mark. That same year, an advisory board, comprising members from a variety of governmental and non-governmental organisations and interest groups, was established to address the definition for sustainable management and to develop a labelling scheme. The principles underlying the law are the need for voluntary compliance and the inclusion of not only tropical but all timber. In addition, the Ministry for Environment's definition of SFM should be based on recommendations from the advisory board and other international standards.

Thus, a set of principles, criteria and indicators selected from fourteen sources was compiled for testing. The test was conducted in Autumn 1995, with adaptations from CIFOR's methodology. This has further intensified the discussion of certification within the forestry sector. Future plans include a feasibility study on controlling timber certification, an elaboration of procedure for certification, a test of this procedure for diverse types of forest holders, and an evaluation of both national and international legal frameworks.

The testing procedure took approximately six months. It started with an introduction seminar, culminated in a two weeks' field-test and ended in the final discussion with the project advisory group. The introduction seminar laid the ground by defining the conditions spe-

cific to the Austrian test. Preselection of the C&I was conducted through a questionnaire. A workshop later brought the test team together to discuss the selection and final list of C&I to be tested. A second evaluation exercise was conducted at the home base before the field test, the most important part of the project, was started. This was followed by another workshop which included other interested parties. The last four months of the project were spent on reports and translation of the reports before submission for final discussion with the advisory group.

Optimum consideration of the Austrian circumstances required an adaptation of the CIFOR method. Hence, this test differs from the tests conducted by CIFOR on a number of issues, including the type of forests to be tested, the size of management units, type of ownership, time frame, composition of experts, structure of the workshop and set of standards tested. The test areas included state forests, private forests, co-operative forests and smallholder forests. In total, from the set of principles, criteria and indicators tested, 140 items remained. Central elements of the set were identified and recommendations for improvement of CIFOR's methodology were made.

Problems emerged which ranged from general issues to very fine details such as time resources (e.g. limited time available by experts), acceptance or decline by all parties concerned, co-ordination of experts while conducting the selection and evaluation exercises at their home bases, pressing schedules during the field test and workshop, translation of the report, and electronic data transfer.

In addition to the evaluated set of standards and the specific results from the test-procedure according to the CIFOR method, open questions were also raised which should be addressed. Some examples include how certification can be fitted into other international and national initiatives to promote SFM?; how can negative effects like misuse, market disadvantages, burdens as opposed to incentives, be avoided?; cost-revenue ratio?; are some sets balanced and fair - are different grades needed?; how can fair access for participation especially for smallholders be guaranteed?; how can the legal framework be fairly incorporated?; can transparency of the chain of custody be ensured?; are other standards needed besides those from the Forest Stewardship Council and ISO?; how can the market be influenced to react positively to certified timber? and so on. These are valid questions that all certification initiatives should keep in mind.

# RAINFOREST ALLIANCE'S SMART WOOD PROGRAMME

*Kate Heaton*

Founded in 1989/1990, Smart Wood Programme's mission is to promote socially and economically viable alternatives to deforestation. It is the oldest and largest forestry certification programme in existence. Forestry operations are certified according to the criteria of the Smart Wood Guidelines and seals of approval are given to those with responsible forest management practices.

Although the Smart Wood Programme originated in the tropics, it now operates in all forest types world-wide, facilitated through the development of the Smart Wood Network of regional non-profit certification partner organisations. Two chapters of the network include the Canada/US Association and the Latin American Smart Wood Association. The network supports a bio-regional approach to certification, including regional development of guidelines. It aims for greater impact on forest management globally as well as north/south equity and regional capacity building in the south. Further reasons for the establishment of the network are efficiency and cost effectiveness of certification activities, prevention of confusing proliferation of labels through promotion of internationally recognised Smart Wood label, bolstering the regional non-profit's standing to influence forestry regionally, and the prevention of redundant expenditures on certification programme development.

Smart Wood is accredited by the Forest Stewardship Council (FSC) for certification of natural forests. Recently, the "Smart Wood - Rediscovered Wood" Programme was launched to certify reused, recycled and salvaged timbers, but this programme falls outside the scope of FSC's accreditation activities. In keeping with Smart Wood's commitment to make certification accessible to companies and smallholders alike, it is experimenting with a "resource manager certification" model where foresters are trained and recognised as certified forest resource managers.

A single definition of certifiable forestry would be valuable for all these activities mentioned but none exists. Within the constraints imposed by FSC's principles and criteria, the definition will vary



according to regional forest type and should be reflected in the regional development of guidelines. Still, some characteristics of well-managed forestry may incorporate long term security for the forest resource; statistically significant inventories of timber and biological resources; good forest management plans; mechanisms to prevent over-harvesting of individual timber species and the overall biomass, as well as prevent the genetic erosion of the forest and protect the forest structure and composition, and to prevent multiple re-entry into harvested areas between cutting cycles; designation of conservation zones e.g. for soil and watershed protection; and implementation of reduced impact logging techniques that minimise residual stand damage.

Problems are encountered in the process, such as the wide gap between ideal forest management and what is happening on the ground. Certification must be seen as a process of improvement beyond minimum threshold requirements which basically are an adequate forest management plan, security for the forest resource, basic compatibility with the social, environmental and sustainable yield components of the guidelines and an ability and willingness to improve. Refinements are still needed, but should be tempered with realistic expectations of certification and what it can accomplish.

Benefits and successes that can be accomplished include reduced impact logging, protection of biodiversity and environmental functions, maintenance/improvement of market share and access, achieving the “green” premium in some cases, bolstering a responsible corporate image and improvement of management through consultation with the assessment team. Further, certification is voluntary, confidential and market driven, and it helps save forests: one tree can provide the same value as clearing an entire hectare for cash crops.

Certification is continuing to grow. ITTO has estimated 1.5 million m<sup>3</sup> of certified wood traded world-wide. Non-governmental organisation activities to organise demand through the formation of buyer groups of major companies serve as significant incentives to middlemen and producers to improve forest management. Individual consumers can also contribute by enquiring about the origin of wood products and expressing a preference for buying certified products should they exist.

# INDONESIAN ECOLABEL INSTITUTE CERTIFICATION SCHEME

*Riga Adiwoso Suprpto*

Indonesia has embraced the initiative to define and create ecolabelling certification. The preparation for Indonesian Ecolabelling Institute (LEI) started in late 1993. The working group concentrates on establishing a set of criteria and indicators for assessing forest management practices, designing appropriate decision making procedures, introducing the assessment system to various interested parties, and establishing an organisational design to ensure its work will be free from conflict of interests. LEI focuses on the decision process for certification but not on conducting field assessment. A non-profit organisation, it aims to ensure transparency, strives for mutual recognition of the certification scheme from various timber-product importing countries, seeks voluntary implementation of the scheme, as well as assures that the scheme is directed towards educating and not penalising the forest concession holders. The frameworks and guidelines of ITTO and FSC, the ISO 14000 standards, the requirements of the National Standard Council of Indonesia and other domestic initiatives taken by the Environmental Agency and the Ministry of Forestry, are all taken into account in its development.

LEI also seeks co-operation from government and non-government bodies, and the Indonesian Forest Community (MPI) to help members understand and appreciate the benefits from voluntary assessments of their practices. In the international arena, the main challenge is dealing with possible discriminatory trade practices. LEI aims to be accepted and considered as being compatible with principles, standards and criteria of other ecolabelling systems. Without mutual recognition on internationally acceptable principles and criteria, complying with different sets of criteria imposed by differing countries will make the costs of timber certification prohibitive. The main idea is to finalise the criteria and indicators for assessing SFM at the management unit, but in recognition that they cannot be detached from government regulations, LEI is working on mechanisms to inform and advise about such governmental reforms.

Five levels of management practices are established by LEI who will indicate to the forest concessionaires the level they can be assigned. The lowest level of certification will be given to a forest management unit which barely fulfils the criteria for sustainable timber production. A time limit will then be set to allow the concessionaires to improve their practices before conducting the assessment again. The highest level of certification will be given to those who can meet all the criteria of sustainability. The award of certification is based on three screening stages. The first screening inspects whether the management unit has fulfilled the administrative requirements as defined by the government. This stage functions also as a means to identify the baseline for assessment and the scope of the field assessment. The second stage is the field inspection conducted by independent assessors who will collect and analyse the data and information in the field, adhering to the indicators from LEI. The third screening comprises two activities: one soliciting general public opinion and the other seeking stakeholders' input. Should the opinions differ, a third panel will review the matter. Through these stages, the ecolabel certification is rigorous enough to ensure sustainable management of the forest and yet, does not become too much of an economic burden for the company.

These activities resulted from a number of factors. One major influence often cited for the increase in demand for environmental friendly products is the growth of movements engaged in raising environmental awareness. Many business are striving to redefine their practices in anticipation of such changes. Nonetheless, the impacts of past forest management practices and the lack of affordable technology and manpower to implement and monitor sustainable forest management (SFM) could become major impediments for timber certification in Indonesia. The cost of SFM will become a crucial issue, and may well constrain the industries' participation in the scheme temporarily.

Basically, SFM is conceptualised as comprising three main principles, i.e. sustainability of forest production, sustainability of ecological function and sustainability of economic, social and cultural functions of the forest. These principles can be further categorised into sub-principles and criteria. The challenge lies in determining how the integrative nature of the principles and criteria of SFM can be assessed to achieve the objectives outlined.

# **SUSTAINABLE FOREST MANAGEMENT CERTIFICATION: THE CANADIAN PROGRAMME**

*Gerry Lapointe*

In 1994, the Canadian forest products industry asked the Canadian Standards Association (CSA) to establish a technical committee to develop a sustainable forest management (SFM) standard for application in Canada. This committee is composed of 30-35 members from a variety of organisations and interest groups. The CSA standard is based on the ISO 14001 Environmental Management Systems Standard and is due for completion in 1996. It is primarily a systems-based standard that focuses on the organisation's management system for forestry rather than just its performance; but the CSA standard goes further than ISO 14001 in incorporating the sustainability concept and levels of performance too. Canada's national criteria and indicators include conservation of biological diversity, maintenance and enhancement of forest ecosystem condition and productivity, conservation of soil and water resources, multiple benefits to society and acceptance of society's responsibility for sustainable development. Through public participation, national and local values are defined and incorporated into the forest management objectives. Local or regional performance indicators are also selected based on their relationship to SFM and other management objectives. These indicators must also be clearly defined, measurable and capable of being audited.

The introduction of a SFM certification system in Canada is expected to have a significant positive impact on forestry and the practice of forestry. Many elements of a SFM system are already being practised but a suitable means of guiding and demonstrating performance is lacking, although changes are taking place. There is general agreement within Canada that the CSA standard is a good certification product, yet danger of winning the scientific battle and losing the public communication war is present since the standard has not been sufficiently promoted.

SFM certification is a voluntary measure where producers can appear credible to the consumers through auditing forest management on a specified area of forest against an agreed upon standard.

Generally, the objectives of certification are to improve forest management planning, objectives and practices; apply market forces to change forest management; demonstrate and provide assurance that forests are well managed; ensure market access and facilitate commercial and trade relations. A good certification system should be voluntary and flexible, developed by the private sector through an open, multi-interest process, non-prescriptive, applicable to all jurisdictions and forest types, non-distortive for trade. It should provide for international equivalency and also be credible. It must be a standard and not an ecolabel approach with changeable thresholds to limit the number of producers.

Several international processes are collectively promoting the concept of certification. Among these are inter-governmental agreements defining national principles and criteria for SFM. The debate has also moved into the marketplace where pressures are on producers to provide evidence of SFM. Many initiatives resulted which in turn produced a proliferation of standards, but this could lead to confusion and loss of credibility in the whole certification concept. Thus, the need for an international standard is obvious. Canada and Australia have proposed that the ISO Technical Committee undertakes to develop a specific application of ISO 14001 to forestry for sustainable forest management. An international study group was formed to discuss the matter further.

Forest certification is very new: it is hard to imagine, let alone predict what the future will bring. Only time will tell if certification responds adequately to society's needs. However, given the attributes of the CSA standard, the CSA SFM certification process has the potential to build a better relationship between society and custodians of the forest resources.

# THE CCAD INITIATIVE ON CRITERIA AND INDICATORS FOR SUSTAINABLE FOREST MANAGEMENT

*Jorge Rodrigue*

At the Central American Presidents' Summit meeting in October 1993, seven countries signed the "Regional Agreement for Management and Conservation of Natural Forest Ecosystems and Development of Forest Plantations". The Central American Commission of Environment and Development (CCAD) with its executive arm the Central American Council of Forests and Protected Areas (CCAB-AP) have the mandate to oversee a plan of action designed to harmonise resources in the region following guidelines from the UNCED and this agreement.

This plan of action recognises that the formulation of criteria and indicators for sustainable forest management is an important priority for the countries in Central America. It is also necessary to improve forest management practices and to monitor their effects more efficiently both in the short and long term. The plan further emphasises that monitoring will allow those national institutions to demonstrate tangibly the positive aspects of the system to a wider audience including politicians and decision makers as well as the general public. In addition, the plan calls attention to the fact that forest products are important sources of income for the country. The development of mechanisms for the certification of forest products to meet the increasing demand for certified wood and non-wood products is another urgent priority for the region in order to ensure favourable competition in the international market.

Support for this effort comes mainly from FAO who will assist the CCAD Secretariat and CCAB-AP in the preparation of a "Workshop on the criteria and indicators for the conservation and sustainable management of forests and forest plantations of Central America", namely tropical humid forests, residual forests and montane forests in the region. In conjunction with these three areas, work on trade and certification of forest products will also be carried out. Means to promote wood and non-wood forest products for both local and international markets will also be explored.

The project aims to assist member countries of the CCAD to identify criteria and indicators for sustainable forestry at the regional level. The objectives of the workshop include identifying criteria and indicators which are applicable to the countries in the region to improve and facilitate monitoring the impacts of management practices on the social, economics, protection and production aspects of the forests. It also hopes to stimulate and identify common criteria and indicators at the forest management unit level to highlight market related issues for certification of forest products. Furthermore, the workshop aims to intensify exchange of information and experiences among member countries, and also with developed and developing countries. The workshop will also work towards ensuring the compatibility of identified criteria and indicators with internationally tried and tested criteria and indicators. Apart from these objectives, it is hoped that the workshop will provide the opportunity to improve and contribute to the credibility and support of forest management at the political level as well as from the general public.

# TESTING CRITERIA AND INDICATORS FOR THE SUSTAINABLE MANAGEMENT OF FORESTS

*Ravi Prabhu*

Whereas several international efforts have concentrated on developing criteria and indicators (C&I) at the national or global levels, CIFOR's project on testing C&I for the sustainable management of forests is, as yet, the only international effort to evaluate and develop C&I at the forest or management unit (FMU) level. In this project, C&I are seen as tools which can be used to conceptualise, evaluate and implement sustainable forest management (SFM). At the FMU level, all C&I to date have, in practice, been designed to test whether management is in accordance with current perceptions of best management practices or good forest stewardship. This is not really the same as assessing sustainability, as good forest stewardship is simply a statement of the "state of the art" of the means to reach the goal of SFM.

During its first phase, August 1994 - January 1996, the project focused on developing a methodology to evaluate and generate a minimum number of cost-effective and reliable C&I for each test site, and on initiating work on a system to evaluate the sustainability of forest management as a whole, based on the recommended C&I. The project did not seek to identify a single 'ideal' set of C&I. Evaluation of C&I took place in FMUs in Germany, Indonesia, Côte d'Ivoire, Brazil and Austria, based on assessment of C&I in the Smart Wood, Initiative Tropenwald, Woodmark, Deskundigenwerkgroep Duurzaam Bosbeheer and the Lembaga Ekolabel Indonesia sets. The outputs of this project are aimed ultimately to serve as tools for those wishing to develop or improve their own C&I.

Our approach was interdisciplinary and iterative, balancing expert judgement with the need to involve stakeholder consultation at each site. Five-member teams of foresters, social scientists and ecologists interacted with stakeholders at the national and local levels. These interactions and the bio-physical and socio-economic environment of the FMU served as 'reality checks' for the evaluation of C&I, within a process designed by CIFOR. In each case these teams discussed and defended their findings at a large workshop.



The need for a common conceptual framework emerged during the test in Germany, where significant conceptual divergence among the various sets of C&I, particularly in defining principles, criteria and indicators, became clear. Several other intellectual tools to judge and classify C&I were also identified. The development of this conceptual framework is bound to continue because sustainability - essentially a human centered concept - will also keep evolving in response to society's demands.

Preliminary results from the CIFOR field tests in Indonesia, Côte d'Ivoire and Brazil suggested that more than half of the C&I felt to be relevant on policy and legal framework, ecological and production aspects were common to all three sites. There was however a marked and sharp decrease in this level of commonality when it came to C&I related to the social aspects of forest management. Comparison of these results with those from the test in Austria revealed that most C&I identified as being common to the three tropical sites were also listed in the Austrian set. This suggests that at least in closed forest formations the development of a common 'core' set of C&I seems possible, however site specific elements will continue to remain important particularly for social aspects and lower levels of hierarchy. More work still needs to be done in making the conceptual framework of principles, criteria, indicators and verifiers developed by the project more consistent and operational.

In the current second phase, the project aims to develop a 'tool-box' approach to sustainability assessment, giving special attention to C&I identified as being weak during the first phase, such as impacts on biodiversity and social sustainability. The research will continue to focus on improving C&I especially with regard to their cost-effectiveness and reliability, and on testing C&I in forests managed by local communities, thereby adding variation to both the question of spatial scales and management objectives. Finally it will seek to evaluate and develop appropriate multi-criteria decision support tools. The project will continue to operate in collaboration with its 24 international partners in the Americas, Africa, Southeast Asia and Europe. Funding support to the project is provided by eight institutions including CIFOR.

# THE CONTRIBUTION OF RESEARCH TO ASSESSING THE SOCIAL DIMENSION OF FOREST MANAGEMENT

*Eva Wollenberg*

CIFOR has given the social dimensions of sustainability special attention because of the overall weakness of the criteria and indicators for its assessment. This weakness stems from a lack of conceptual clarity concerning the definition of social sustainability, the difficulty of establishing generalisable standards about people's well-being and subjectivity of applying social criteria and indicators in different settings. During the last 18 months CIFOR has sought to address these concerns by producing a conceptual framework for understanding the social features of a forest management system, developing new criteria and indicators, producing tools for defining forest people and helping to stimulate debate about ongoing issues.

CIFOR has adopted a working definition of the social aspects of forest sustainability that includes:

1. The maintenance of people's well-being, often with a focus on forest dwellers, consists of several dimensions: security and sufficiency of access to resources; economic opportunity; decision-making opportunity; justice; heritage and identity; safety and health.
2. The actions of people that affect the sustainability of the forest. Eight social conditions have been identified as necessary for effective resource management by a group: clear boundaries; capacity to protect the forest resource; effective decision-making and conflict resolution mechanisms; capacity to monitor the quality of the forest resource; organisational efficiency; incentives and benefits for good forest management; inputs necessary for sustainable management; shared value of conservation or commitment to maintaining the forest.
3. The intergenerational distribution of benefits focuses on the persistence or improvement of social equity over time. Indicators for assessing intergenerational benefits include the stability of people's well-being; the maintenance of 'social capital'; equitable inheritance sys-

tems; tenurial security; and values of and opportunities available to, the younger generation.

The results of the field tests showed that common criteria and indicators among all sites could be classified in two groups (1) those concerning fair and equitable sharing of benefits with local people, and (2) those concerning local people's "voice" in forest decision-making. Key differences among sites included criteria related to labour rights, mental and physical health, cultural integrity. The social science criteria predictably showed the lowest amount of commonality of all the sets. Only 32 percent of the criteria and indicators were shared across all three tropical forest sites.

A major issue addressed by the project was determining which people to observe, or as project anthropologist Carol Colfer has put it "who counts". In the assessment process it is necessary to determine who the "most important" stakeholders are, how the stakeholders can be easily identified, and how the role of different stakeholders should be assessed. Although generic categories of stakeholders can be identified at every site, the role of each stakeholder in forest sustainability may vary. Methods are therefore necessary to link stakeholders to their role in forest management. The "Who Counts" matrix is a first attempt to develop such a method.

The next steps planned for 1996-1998 include the following:

1. Initiate research to test empirically links postulated in conceptual framework;
2. Further refine the six dimensions proposed for identifying "who counts" in sustainable forest management;
3. Further develop the definition of social sustainability, e.g. the concept of human well-being;
4. Extend the tests to forests managed by local communities.

# **WORLD CONSERVATION MONITORING CENTRE: APPROACHES TO ASSESSING FOREST CONDITION AND DIVERSITY**

*Valerie Kapos and Tony Turner*

The World Conservation Monitoring Centre (WCMC)'s Indicator Programme is a state of the art programme that aims to integrate various conservation data and deliver appropriate products into the hands of decision makers at all levels, thereby influencing biodiversity and sustainable development policy decisions. The Programme consists of the following five elements: Indicator Development which identifies conservation issues and develops appropriate indicators; Indicator Delivery which prepares and provides indicator products; Indicator Capacity Building which develops ways and means for others, particularly national organisations, to build and use indicators; Indicator Outreach which builds bridges between WCMC indicator activities and related activities in other organisations; and Indicator Co-ordination which ensures that all the above elements moving in a coherent manner. In all these, several projects designed to select and evaluate forest habitat and biodiversity indicators, and to conserve and manage trees sustainably, contribute to WCMC's programme.

One of these projects is "Monitoring the State of the World's Tropical Forest" sponsored by WWF International. The goal of this project is to select and evaluate indicators of tropical forest condition and vulnerability at a variety of scales. Though its original emphasis was on indicators that can be used for global and regional-scale synthesis, attention has been given to a full range of scales and their inter-relations as part of the development and validation process. The four possible scales are determined by the level of use, the most likely users, the scale of information required, and the potential uses of the indicators. At each scale, indicators of state, i.e. forest condition, and of pressure (vulnerability) are required. For many issues, the former presents a more difficult conceptual problem because it requires more detailed definition of the desired state than simply a general understanding of which pressures are likely to have negative effects. For the purpose of this project, good forest condition is being iteratively

defined based on the work of other groups and on surveys of perceptions of potential indicator users within case study countries. The analysis of indicator effectiveness is being conducted using national level case studies in Uganda and Sri Lanka at present, with plans to extend the study to Ghana and Ecuador.

A second project is the “Development of Effective Indicators for Monitoring Biodiversity” funded by the Overseas Development Agency to test the effectiveness of a number of candidate indicators in predicting changes in biodiversity through time. The analysis will be based on historical data sets from inventories in sample plots and forest management units in tropical moist forests.

The Government of the Netherlands is also funding another project in support of the world-wide conservation of trees, in which WCMC and the Species Survival Commission (SSC) are major partners working closely with a wide range of other national and international organisations. The project aims to develop a Tree Conservation Information Service that will provide a reliable and up-to-date information on the distribution, conservation status, local uses and economic values of tree species in order to assist countries in the planning of sustainable forest management and biodiversity conservation, through appropriate international or intergovernmental processes. The expected outputs include a world list of threatened trees using the World Conservation Union (IUCN) threat categories, a report on sustainability of tree utilisation, a World Tree Database in electronic format, an on-line access to tree conservation information and the development of a SSC Trees Network.

Forest habitat conditions can be viewed from a number of perspectives, and WCMC emphasises that consideration of such factors as the requirements of decision makers, scale and indicator selection criteria are key to ensuring that indicators are effectively applied to conserve and manage forests and other natural resources. This is reflected in its involvement at local, national and global level activities mentioned above.

# ANNEX 1

## THIRD INTERNATIONAL PROJECT ADVISORY PANEL (IPAP) MEETING TURRIALBA, COSTA RICA FEB. 26-28, 1996

OPEN SESSION ON THE STATUS AND FUTURE DIRECTIONS  
OF CURRENT INITIATIVES ON ASSESSING SUSTAINABILITY  
AT THE FOREST MANAGEMENT UNIT LEVEL

### AGENDA

Objectives: The open session has two principle objectives.

- 1) Facilitate exchange of information between some of the leading initiatives on sustainability assessment at the forest management unit level
- 2) Provide feedback to CIFOR and other institutions involved in the development of sustainability assessment tools

#### ***THURSDAY, FEBRUARY 29***

- 08:00-08:30 Registration
- 08:30-09:00 Welcome Addresses - Ruben Guevara (CATIE),  
Jeffrey Sayer (CIFOR)
- 09:00-10:00 **Why forest management unit level assessment of sustainability?**  
Panel discussion:  
Chair: Pekka Patosaari (Ministry of Agriculture, Finland)  
Panellists: Andrew Howard (UBC, Canada),  
Tim Synnott (FSC),  
Jean-Guy Bertault/Jean-Marc Bouvard (on French Forests)
- 10:00-10:30 *Coffee Break*
- 10:00-12:30 **Status of sustainability assessment initiatives**  
Panel discussion. Chair: Hermann Schmincke (FAO)  
Panellists: Anders Lindhe (WWF, Sweden),  
Peter von Fürstenberg (ITW, Germany),  
Jean-Marc Bouvard (ATO),  
William Barclay (Greenpeace, Netherlands),

Enrique Toledo (TCA),  
 Josef Hackl (Umweltbundesamt, Austria),  
 Kate Heaton (Smart Wood, USA),  
 Riga Adiwoso (LEI, Indonesia),  
 Gerry Lapointe (Canadian Pulp & Paper Association),  
 Pekka Patosaari (Ministry of Agriculture, Finland),  
 Costa Rica/CCAD

12:30-14:00

*Lunch*

14:00-15:30

**Contribution of research to the development of criteria and indicators**

Chair: Bryan Finegan (CATIE)

The CIFOR criteria and indicators research programme -  
 Ravi Prabhu

Assessing the social dimension of forest management -  
 CIFOR - Eva Wollenberg

Assessing habitat condition and biodiversity WCMC -  
 Tony Turner

15:30-16:00

*Coffee Break*

16:00-17:30  
**Assessment of sustainability as a commercial proposition**

Panel discussion, Chair: Paul Wolvekamp  
 Panellists: Jim Knutzon (SCS Inc., USA),  
 James Sandom (Woodmark, UK),  
 Andres Martens (PORTICO, Costa Rica),  
 Gerry Lapointe (Canadian Pulp & Paper Association)

***FRIDAY, MARCH 1***

08:30-10:00

**Do we have the standards to assess forest management with?**

Panel discussion, Chair: Erik Lammerts van Bueren

Panellists:

Frank Miller (Qualifor, UK),

K.H. Schmincke (FAO),

Timothy Synnott (FSC),

Jim Knutzon (SCS Inc., USA),

Ravi Prabhu (CIFOR)

10:00-10:30

*Coffee Break*

10:30-12:30

Working Group Session

Introduction to Working Group methods  
Working Group I - Conclusions of the Seminar:  
Current status of initiatives.  
Chair: Andrew Howard (UBC, Canada)

Working Group II - Conclusions of the Seminar:  
Future directions.  
Chair: Dennis Dykstra (CIFOR)

12:30-14:00

*Lunch*

14:00-15:30

Report of Working Group I & discussion

15:30-16:00

*Coffee Break*

16:00-17:30

Report of Working Group II & discussion

17:30-18:00

Discussion & Wrap up.



## ANNEX 2

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In a year marked by several formal expert level meetings on certification of forest management and criteria and indicators for sustainable forest management (C&I), most of which are related to the mandate of the Intergovernmental Panel on Forests (IPF), CIFOR and CATIE decided to lead-off by hosting an informal meeting of experts from a cross section of important certification and C&I initiatives. Our desire was to facilitate an effective exchange of information between these initiatives, providing feedback to CIFOR, CATIE and other research institutions involved in the development of sustainability assessment methods and with a view to preparing the ground for subsequent IPF related meetings in Kuala Lumpur, Brisbane, Bonn and Helsinki. The meeting was conducted under the umbrella of the International Project Advisory Panel (IPAP) of CIFOR's project on 'Testing criteria and indicators for sustainable forest management'.

This CIFOR/CATIE special publication is a report of the meeting. It contains an essay type summary of the major points raised at the meeting and short summaries of twelve presentations made during panel discussions. The conclusions of this meeting will hopefully be an aid to other groups working on sustainability assessment and C&I.

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