Pre Conference Training Workshop

Sustainable Forest Management Criteria & Indicators – Their Enhancement through Science

IUFRO World Congress
Gympie Training Centre, Australia

2-5 August 2005
A. Background

During the past decade, **Criteria and Indicators (C&I)** have emerged as important tools in forestry around the world in defining, assessing and monitoring progress towards sustainable forest management. Towards this end several international C&I processes have been initiated (e.g. Pan-European, Montreal, Tarapoto, Dry-Zone Africa, Near East, Lepaterique, Dry-Zone Asia, International Tropical Timber Organization [ITTO] and African Timber Organization). These developments were accompanied by the establishment of national C&I processes and certification schemes in virtually all countries around the globe with significant forestry sectors. Several international forestry expert institutions and networks notably CATIE, CIFOR, FAO, IUFRO, and ITTO have supported C&I developments through research, advisory services, project acquisition and coordination.

Despite these achievements, experiences with C&I application particularly in developing countries have shown that there is the need to further develop forest management standards through improved formulation, assessment, interpretation and validation of C&I, particularly in more complex specialisations related to the conservation of biological diversity, sharing of benefits derived from forests and other socio-economic issues. Obviously, the scientific community can play an important role in this development, not only through the provision of research results, but also the identification of knowledge gaps and research needs in support of sustainable forest management. Recognising the importance of both scientific and socio-political dimensions within the process of building adequate auditing systems, the role of developing country forest scientists is critical. Full participation of scientists is required, particularly to ensure that forest management standards are based on the latest results of local research and development activities. Local scientists may also contribute significantly to the formulation of C&I and auditing procedures through their local experience with field assessments, data processing and interpretation of results. Their in-depth knowledge with regard to the local socio-cultural environment is indispensable to establish workable auditing and certification systems.

Experiences over the past decade have shown that the scientific community has been very supportive towards the idea of promoting improved social and environmental standards in forestry. With the further expansion of sustainable forest management systems in the developing world, forest scientists in these countries need to play a greater role in C&I development, auditing and certification processes. Overall, this will serve the purpose of improving forest management in the field, thus scientific results can be transferred to the field level through the application of C&I, systematic auditing and certification.

Against this background, a training workshop on “Sustainable forest management criteria and indicators – Their enhancement through science” was held as a pre-congress training event at the Gympie Conference Centre, Australia, from 2 to 5 August, 2005. The course received basic funding from the Food and Agriculture Organization of the United Nations (FAO) and Ministry of Foreign Affairs of Finland, and in-kind contributions from the German Agency for Technical Cooperation (GTZ), Center for International Forestry Research and the Southern Cross University (Australia) through provision of trainers and expertise, training material and assistance in course implementation.
B. General Information

The course has been prepared and implemented by a team consisting of the following persons:

- Dr. Alexander Hinrichs, Lead Facilitator
- Dr. Ravi Prabu, Co-Trainer
- Dr. Jerry Vanclay, Co-Trainer
- Dr. Michael Kleine, Presenter

The objectives of the course included:

- Updating the participants on local and regional C&I processes
- Linking international C&I processes with forest certification
- Demonstrating the application of C&I systems in evaluating forest management, monitoring and reporting
- Explaining opportunities and processes of enhancing C&I through science input

The target group of the course were forest scientists and practitioners from developing countries and countries in transition with special interest in C&I systems. 15 participants joined the class. They originated from the following countries:

- South Korea
- India
- Nepal
- Bangladesh
- Indonesia
- Philippines
- Malaysia (2 persons)
- Vietnam
- Cambodia
- Slovakia
- North Korea (4 persons, arriving on Thursday)

The participants came from diverse backgrounds. Some participants had been involved in their countries in C&I processes (e.g. Montreal and ITTO processes) or in forest certification work (as a representative of or a consultant to an FMU in certification, or as a member of a national working group on standard development), while for others the topic was new and signing up to the training was motivated by their interest to become exposed to a new and challenging thematic area.

Consequently, expectations expressed by the participants of the course varied widely, but could be accommodated in the programme:

- Receive information on the C&I for SFM processes in different countries and regions
- Understand the link between national and international C&I for SFM processes
- Understand how to develop and apply the C&I for SFM approach on national and FMU level
• Understand the role of science in C&I processes
• Gain a more holistic view on C&I in relation to SFM
• Gain knowledge to support forest certification
• Learn about tools (software) to support C&I development
• Gain facts and confidence to initiate and support C&I processes at my own country
• Establish a network for future cooperation

C. Course Programme and Results

The programme was structured in three main topics (see Appendix 1 for the detailed programme):

• Introduction to C&I processes on international, national and FMU level
• Introduction of tools to support C&I development
• Defining the role and needs of science to enhance C&I processes

C1. Introduction to C&I processes at international, national and FMU levels

This session was prepared and given by the lead facilitator, actively involving the participants regarding their own country experience. The sub-topics were:

• Introduction to the 10 international C&I processes (national and regional level)
• More in-depth analysis of the Montreal, ITTO and Dry-Zone Asia process, including examples on indicators
• Introduction to C&I processes at the FMU level (role of international processes)
• Other C&I processes at FMU level (concept, process and status quo of forest certification)
• Similarities and differences between international C&I processes and standard development in forest certification
• Introduction to the concept of auditing of SFM
• Case studies on C&I application

The participants were highly interested to receive an overview of the on-going C&I processes and respective policy backgrounds. Comparing processes and approaches was welcomed.

The participants had been asked in advance to prepare a short presentation on C&I processes in their countries. They all arrived at the training center with a prepared power point presentation and reported on forest management as well as national and FMU level processes and the various stages of implementation in their countries. Sharing this experience was very useful. The participants noted that some countries have significantly advanced on C&I processes, while in others the process has barely started.

The lead facilitator added a short overview on C&I processes in the ASEAN member countries. One participant added information on Russia. In this way, a sufficiently broad overview on relevant national processes in the region was gained. Comparing individual aspects, e.g. how biological or social aspects are dealt with in the different processes, would have been of interest, but due to time constrains could not be pursued.

Most challenging for the participants was to differentiate between national C&I processes and standard development in forest certification. Depending on their background, none of the participants was familiar with both processes and comparing them brought valuable insights.
Forest certification was broadly discussed. Market and non-market incentives were mentioned, as well as risks and disincentives for CBFM areas (e.g. the case of Nepal).

A general discussion on auditing concepts and ways to develop norms and scoring systems completed the session. Michael Kleine shared his experience from developing an auditing system for Malaysia and Ravi Prabu elaborated on experience gained through CIFORs work on C&I, especially regarding defining clear objectives before initiating a C&I process.

C2. Introduction to tools to support C&I development

This session was prepared and given by the co-trainers. Ravi Prabu introduced the CIFOR toolbox on C&I and how it can be used to improve forest management.

At the beginning of the hands-on part of the session, the participants were asked to play the Fishbank game, developed by Drs Donnella and Dennis Meadows of the University of New Hampshire. The objective of this session was to understand the concept of sustainability and the role of indicators. The game was played in four groups in an interactive manner, creating time pressure for each participant to come up with his fishing strategies and on-spot decisions.

The participants managed to extinct the fish population in a short period of time by applying individual profit maximising strategies, annoying relevant indicators and hacking off partnerships. The result was frustrating, but this was an excellent “learning through doing” start to discuss the concept of C&I and sustainability. Reaching this understanding through reflection, the “stressful exercise” was highly welcomed.

Afterwards, Jerry Vanclay and Ravi Prabu introduced CIFORs work on co-learning software, especially the bridge programme and the linked SIMILE modelling environment. The participants were again separated into groups. They were asked to characterize an existing forest area, its social, environmental and economical setting and to formulate a management vision, related objectives and challenges. To audit and monitor the behaviour of these forest areas through time, the participants were asked to create a list of applicable indicators by using the bridge software. For this purpose, 8 PCs had been installed at the classroom.

The exercise helped the participants to understand the usefulness of the co-learning software approach, especially how modelling can help to define a problem, create a list of relevant indicators and gain insights into systems behaviour in order to help to decide what to do in the future. However, the participants had problems using the software, due to lacking experience with the programmes’ user-interface, the concept of modelling and rather complex problems tested. More time would have been beneficial.

In order to demonstrate the usefulness of the co-learning approach, the trainers finally shared lessons learned from applying action and co-learning to various problems related to food security and sustainability in Africa and Asia. Relevant literature was circulated.

C3. Defining the role and needs of science to enhance C&I processes

This session was prepared by the lead facilitator. After reflecting on the rationale for developing C&I, the difficulties met in the existing processes and the lessons learnt during the hands-on training part in session B2, the participants were again divided into four groups to address the following questions:

- What shall and can research contribute to C&I development?
The participants pointed out that research can contribute to C&I development by:

- Providing answers to specific problems such as measuring biodiversity, productivity, social aspects, etc.
- Prioritizing and streamlining indicator systems
- Defining appropriate indicators through multi-disciplinary research work
- Using participatory approaches in research to determine appropriate C&I
- Playing a lead role in C&I revision processes
- Linking C&I to policy development
- Support reporting

The participants found that research can contribute to C&I application through:

- Provision of scientific evidence, e.g. in model forests
- Development of methods, especially regarding easy-to-measure verifiers
- Standardizing procedures/guidelines
- Statistical evaluation
- Creating clear definition of terms
- Discussing ways to streamline C&I in government monitoring, assessment and reporting schemes

Additionally, they outlined that researches should contribute to make the C&I approach and auditing results available to the public and to decision-makers through various means of communication.

To create sufficient capacities on C&I and MAR, the following was deemed necessary:

- Regional trainings/workshops/meetings on C&I concepts and lessons learnt, lead by international organizations
- Sharing experience (regular exchange of research results among researchers and practitioners on C&I applications)
- Networking between agencies for better monitoring, assessment and reporting
- Creation of a databases for storage and dissemination of C&I data and information to C&I users
- Development of a universal C&I format (this was a controversial topic between the participants)

The final activity was to outline research needs of the represented countries, based on the above exercise. The following needs were briefly described by the groups. All needs mentioned require further reflection.

**Bangladesh, Indonesia, Vietnam and Malaysia** pointed out that is was important to their countries to:

- Identify the number of indicators and verifiers with respect to a set of criteria for each forest type of the country
- Identify social variables that affect forest management with respect to each forest type and come up with quantifiable indicators and
verifiers

- Based on experience of testing C&I in several parts of Indonesia, a need for the development of standard protocols/methodologies is perceived, especially on how to apply C&I and how to derive useful conclusions
- Communicate to the lowest possible level the concepts of sustainability, conservation value, biodiversity and others in order to define useful indicators/verifiers

**Slovakia, Malaysia and Nepal** pointed out that is was important to their countries to:
- Integrate FMU level information at national level
- Create technical information and baseline data on biodiversity, etc.
- Define the social component
- Raise the applicability of C&I to various conditions
- Conduct research on Protected Forest (special Slovak need)
- Define sustainable harvest levels (special Slovak need)

**Cambodia, India and Philippines** pointed out that is was important to their countries to:
- Cambodia: conduct research on the status/condition of the forest, and on biodiversity in production forest and protection forests
- Philippines: conduct studies that would provide data on indicators in all FMUs/watersheds of the country (to provide a nationwide real-time scenario)
- India: conduct field-based research on standardization of priority indicators for SFM in various forest types and initiate a literature-based study on evaluation of existing conservation policies vis-à-vis the application of C&I for SFM

**North and South Korea** pointed out that is was important to their countries to:
- Update technology such as inventory of resources, remote sensing, meteorological data and to share the data freely (especially mentioned by North Korea)
- Establish an internet based database and network on C&I
- Model and share experiences and information on biological, social and economic aspects, all focused towards SFM

**D. Workshop Documentation**

The participants each received a folder and a CD. The folder contained most important reading material, all trainers’ presentations, the programme and the list of participants (for networking reasons). The CD contained additional reading material on international C&I for SFM processes, forest certification (including a selection of draft national FMU level standards in Asia), available tools (including the complete set of CIFORs co-learn software and C&I toolbox) and all presentations given during the course by trainers and participants.
E. Course evaluation

The course evaluation followed the approach used in all 4 post-conference training courses at Gympie. Since the North Korean group accumulated its feedback into one vote, a total of 12 replies were given.

At first, the participants rated whether their expectations were met throughout the programme and whether the course had reached it’s agreed upon objectives:

- Expectations met
  - 9 above 75% (mostly close to 100%)
  - 3 between 50-75%

- Objectives met
  - 9 above 75% (mostly close to 100%)
  - 3 between 50-75%

Secondly, the participants rated whether the main content elements were relevant and useful to them:

- Relevance
  - Introduction to C&I processes (all voted highly relevant)
  - Learning to apply tools for C&I development (7 voted highly relevant, 4 less relevant)
  - Defining the role of research and research needs (7 voted highly relevant, 4 less relevant)

- Usefulness
  - Introduction to C&I processes (10 voted highly useful, 1 less useful)
  - Learning to apply tools for C&I development ( 4 voted highly useful, 7 less useful)
  - Defining the role of research and research needs (4 voted highly useful, 6 less useful, 1 not useful) – Note: several participants were practitioners

Thirdly, the participants were asked to describe on cards what they liked, disliked and recommend for future courses:

- The participants liked regarding the course content:
  - Amount of useful and up-to-date information provided, especially during the C&I introduction session
  - Quality of explanations on C&I concepts and development of C&I processes
  - Usefulness of additional information by participants due to wide country diversity
  - Learning about the Fishbanks game and co-learn software

- The participants liked regarding the used methodology in the course:
  - High quality of presentations
  - Amount of group work
  - Openness in discussions
  - Joyfulness of the teaching and learning approach
  - Depths of reflections
  - Documentation and reader (especially the CD)

- The participants liked regarding the course organization at Gympie:
  - Quality and appropriateness of all organizational arrangements
  - Available internet access
  - Food quality
  - Facilities and friendliness of the training center
The participants also wrote down a few things they disliked:

- Time pressure, especially during the co-learn and modelling session
- Lacking definition of the basis of C&I (?)
- Missing TV and internet connection in the private rooms
- Food quality (one participant unfortunately got ill)

The participants finally gave some useful recommendations:

- Allocate more time for the training (one additional day) to allow for more practical exercises, e.g.:
  - Analyse in more detail the C&I lists of selected countries
  - Chose one indicator (thematic field) and discuss how the different C&I processes deal with this topic
  - Conduct a field trip (e.g. to a model forest) and discuss C&I application and forest certification on the spot
- End classes earlier (at 5 p.m.)
- Conduct a special training course for members of national C&I working groups
- Sent reading material in advance for preparation
- Elaborate the basics of C&I further
- Reduce time for co-learn software/allow more time to learn the co-learn software (controversial positions)
- Contract same lead facilitator for the next course.