



**SUMMARY OF THE INTERNATIONAL
CONSULTATION ON RESEARCH AND
INFORMATION SYSTEMS IN FORESTRY
7-10 SEPTEMBER 1998**

The International Consultation on Research and Information Systems in Forestry (ICRIS) was held at the Forest Training Station of Ort in Gmunden, Austria from 7-10 September 1998. ICRIS was an initiative of the Austrian and Indonesian governments in cooperation with the Center for International Forestry Research (CIFOR) and the UN Food and Agriculture Organization (FAO) and was organized by the International Union of Forestry Research Organizations (IUFRO). ICRIS examined ways and means to implement research support, with particular emphasis on the interface between research and the user community and the role of research in policy formulation, and to provide background information for future international forest processes. Recommendations coming from ICRIS are intended to provide proposals for the advancement of forestry research, which may be adopted by the Intergovernmental Forum on Forests (IFF).

Eighty participants representing governmental, intergovernmental organizations and research institutions attended the Consultation. Discussions during the Consultation explored and suggested mechanisms to improve: research priority setting; forest research networks and information systems; capacity building; funding mobilization; and information technologies. Five discussion groups convened to focus on each of these topics from specific perspectives: increasing emphasis on environmental and biodiversity values of forests; diversification and involvement of stakeholders; the role of transnational and private investment in forestry research; developments in frontier areas of science; and meeting the technology needs of poor and marginalized peoples and increasing the involvement of households and communities in tree growing and other enterprises. Throughout the week participants also traveled to the nearby forests to view firsthand examples of Austrian sustainable forest practices.

In the final Plenary participants discussed the consolidated summaries of the discussion groups and a set of proposals for action that had been prepared by a small drafting group. There was a lack of consensus on the proposals for action to be forwarded to the IFF, and the Consultation agreed to establish a small 'Friends of the Chair' group to prepare a consolidated set of proposals for action based on comments made in the final Plenary and publish it on the IUFRO web site. A final revision of the conclusions and proposals for action will then be transmitted to IFF-3. These proposals are likely to support: capacity building; the development of a Global Forest Information Service; and the establishment of a science-policy maker consultative group.

A BRIEF HISTORY OF THE ICRIS

IPF-4: In the Co-Chair's Report of its fourth session, in February 1997, the open-ended *ad hoc* Intergovernmental Panel on Forests (IPF), called for "measures to focus and improve coordination of forest research and development, possibly through the development of a strategic framework for a global forest research network, making full use of existing organizations." The report requested CIFOR, in collaboration with relevant organizations and an experts group, to develop possible mechanisms to: guide identification of global and eco-regional interdisciplinary research problems; promote consortia or networks to lead and organize research and ensure availability of results; build global research capacity; and mobilize resources. The IPF also: called on the Convention on Biological Diversity (CBD), UN Framework Convention on Climate Change (FCCC) and the UN Convention to Combat Desertification (CCD) to promote research and analysis; urged the UN system, international financial institutions and countries to examine the need to expand existing research capacity; called for the establishment of new research, development and extension centers, where appropriate; and encouraged countries and regional and international research organizations to extend and prioritize on-site research and application of its results.

IFF-1: At its organizational session in October 1997, the *ad hoc* open-ended Intergovernmental Forum on Forests (IFF) accepted a proposal by Austria and Indonesia to co-sponsor a consultation on research and information needs targeted toward sustainable forest management (SFM).

IFF-2: The second session of the IFF, from 24 August – 4 September 1998, recommended that IFF-3 should address: the need for a global forest-related research network; assessment of existing research networks and their potential; and identification of institutions that could act as a focal point for review of ongoing globally relevant forest research.

REPORT OF THE MEETING

OPENING STATEMENTS

ICRIS Co-chair Ingwald Gschwandtl, Director, International Forest Policy Division, Federal Ministry of Agriculture and Forestry (Austria), opened the meeting on Monday, 7 September at 9:00 am. Gerhard Mannsberger, Director General, Forestry Department, Federal Ministry of Agriculture and Forestry (Austria), outlined three visions that should guide the Consultations: optimum forest conditions worldwide; best knowledge of forests; and worldwide dissemination of that knowledge. ICRIS Co-chair Toga Silitonga, Director General of Forestry Research and Development Agency, Ministry of Forestry (Indonesia), noted that at IFF-2 forestry research was not discussed substantively, and that therefore ICRIS was timely and its outcomes

relevant to the IFF process. He hoped ICRIS's outcomes would be widely disseminated so developing countries could become better informed and participate more actively in the IFF process.

Ilkka Ristimäki, IFF Co-chair, noted that the IPF and IFF are policy and political processes and that research is needed to underpin SFM. He said research information should be synthesized and made available to decision makers in policy-relevant terms. He noted the need for action-oriented research results and increased attention to research capacity building in developing countries. Oudara Souvannavong (FAO) said the experience of FAO's research and networking programmes could contribute to the Consultation and that FAO was eager to participate in implementation of ICRIS's recommendations in support of research and information systems. Jeff Burley, IUFRO President, supported Mannsberger's three visions and said IUFRO does not support scientists making policy, rather it is for policy makers to realize the effects of their policy decisions. He added that science should be provided in a form policy makers can understand and serve as a supporting mechanism for policy decisions.

Jeffrey Sayer, Director General, CIFOR, presented the Vision Statement to guide ICRIS. He said ICRIS must: add greater scientific input to the IFF and post-IFF processes; develop an international consultative mechanism for forest research; find new collaborative initiatives to address key problems; and re-examine global forest information systems. C.T.S. Nair (FAO) described the current situation of weak, ineffective and inflexible national research systems, and the absence of a credible framework for forestry science. He said international efforts are limited, inadequate and driven by donor agendas. Regarding information technology, funding and research capacity, he noted a widening gap between developing and developed countries, a drastic reduction in public funding and a pursuit of easy rather than long-term options.

IMPLEMENTATION: CONSTRAINTS TO UTILIZATION – INTERFACE BETWEEN RESEARCH AND THE USER COMMUNITY

On Monday afternoon, participants heard a keynote address and participated in a panel discussion. Thomas Mills (Canada), on behalf of co-author Birger Solberg (Norway), gave the keynote paper: "Research Contributions to Forest Policy Formulation: Opportunities and Cautions." He highlighted barriers to the consideration of research information in policy deliberations, noted that few researchers are trained to work effectively at the interface with policy-makers and suggested a number of long-term contributions to building better collaboration.

During panel discussions, Manuel Rodriguez (Colombia) noted that strengthening worldwide information systems can empower forest dwellers interested in SFM. He remarked that the policy-making apparatus is often controlled by vested interests or multi-national corporations interested in lowering forestry regulations as part of globalization, and that strengthening research systems may thus pose difficult political consequences. Birger Solberg stressed the need for quality research and democratic processes to address this. Yves Birot (France) called for integrating available knowledge into a body usable by forest managers and decision-makers.

Julian Evans (UK) asked how to address policy-makers changing research priorities before previous questions have been answered. Jeff Sayer questioned the separation of policy-making and research, noting that most research exists to answer policy makers' questions. He noted the problem of cheating lobbyists and biased policy-makers. John Innes (Switzerland) remarked that use of these terms indicates lack of trust and failure to understand that different groups work with different standards.

Thomas Mills recommended that researchers help control these problems and improve accountability for misrepresentations by making information accessible for public scrutiny. Frederick Kruger

(South Africa) noted that research and policy-making influence each other but that researchers must maintain quality and independence. Jagmohan Maini (IFF) observed that: scientists are often pressured to make results based on policy-makers' election cycles; researchers must develop ways to deal with uncertainty; and one role of science is to identify emerging issues.

Birger Solberg responded that for researchers to predict emerging issues they must conduct independent research. He also stressed honesty about degrees of uncertainty. Thomas Mills noted that researchers frequently overstate confidence in their answers. He remarked that the more contentious the issues or the more biased the policy-making process, the more conflictual the relationship between policy-makers and researchers. Jeff Sayer commented that developing "boundary spanners" between natural and social sciences is difficult because of pressure on universities to produce research on narrow concrete goals. Ilkka Ristimäki cautioned that policy-makers must often establish objectives and reconcile varied positions in an effort to reach consensus.

Birger Solberg noted the absence of an institution to address research on the international level. He suggested combining CIFOR and IUFRO. Colin Ogbourne (UK) said a broader perspective on the role of the researcher includes sharing their experience in selecting, organizing and handling knowledge. He suggested involving information specialists and information technology. Jeff Sayer added that effective use of the media can enable hard science to influence policy makers.

Thomas Mills cautioned scientists against advocating a particular solution to a social situation, because the stronger the advocacy, the greater the likelihood of undercutting the credibility that makes research valuable. Jag Maini noted that science sometimes contributes to international policy-making processes through scientific bodies such as those associated with the global conventions on climate change and biodiversity and urged the Consultation to make recommendations on how to mobilize researchers' collective expertise. Benni Sorimin (Indonesia) agreed that ICRIS should try to contribute to the creation of a scientific advisory body for the intergovernmental process.

DISCUSSION TOPICS

The Consultation divided into five break-out groups and discussed five topics in sequence: mechanisms to identify, define and prioritize interdisciplinary forest research themes at national, regional and global levels; roles of global and regional networks and consortia in strengthening forestry research; mechanisms for forestry research capacity building; changing patterns of research funding; and improved access to forest information. Each of the five discussion groups simultaneously considered each topic from different perspectives: increasing emphasis on environmental and biodiversity values of forests; diversification and involvement of stakeholders; the role of transnational and private investment in forestry research; developments in frontier areas of science and their impact on forestry research; and meeting the technology needs of the poor and marginalized and increasing the involvement of households and communities in tree growing and other enterprises. After considering each topic, the five discussion groups reported their conclusions to the Plenary.

MECHANISMS TO IDENTIFY, DEFINE AND PRIORITIZE INTERDISCIPLINARY FOREST RESEARCH THEMES AT NATIONAL, REGIONAL AND GLOBAL LEVELS: On Monday Peter Glück (Austria), on behalf of co-author Neil Byron, presented the discussion paper "Mechanisms to Identify, Define and Prioritize Interdisciplinary Forest Research Themes at National, Regional and Global Levels." The discussion group on increasing emphasis on environmental and biodiversity values in forests, defined problems, including: lack of a common view on biodiversity and research values; divided responsibilities for forest issues, including the CBD, FCCC, the IFF and other regional and bilateral agreements and processes.

They noted development of separate actions plans at the international, regional and national levels on, inter alia: carbon sequestration, biodiversity, watershed protection and timber exploitation. Division of responsibilities among ministries was also noted as a traditional source of conflict. The group also recognized that many developing countries have very broad agendas, small research capacity, and limited resources and priority-setting capabilities.

In determining mechanisms for setting priorities, the group suggested that the GEF's opportunistic approach to allocating funds could be improved through CIFOR and IUFRO guidance. The group identified the need to create mechanisms for coordinating different treaties at the international level and opportunities for strengthening or creating mechanisms for priority setting at the regional level.

In the discussion group on diversification and involvement of stakeholders, "stakeholders" were defined as not solely foresters but groups influenced or affected by or interested in the problem. Concerning whether the mechanisms at the different levels are able to incorporate the perceptions or priorities of new stakeholders in the research agenda, the group said the existence of mechanisms and/or their effectiveness varies by country. The group also noted that in many countries stakeholders and/or governments do not consider research a priority. The group agreed that stakeholders' ability to exert adequate pressure varies by country and level of development, but that stakeholders in less developed countries are increasingly organizing and gaining influence. The group agreed that: conflicts over resources are increasing due to the diversification of stakeholders; conflict resolution, particularly in less developed countries, should be achieved through better information and resources to express their viewpoints; and conflicts cannot be resolved until there is a clear expression of rights.

The discussion group on the role of transnational and private investment in forestry research noted that its role is significant in only 25 countries. The group defined categories of private sector research in: individual companies (in-house or contracted); private sector cooperative research and industrial organizations; foundations and NGOs; and public/private partnerships. The factors guiding priority setting for private sector research were identified as: return on investment; legal requirements; and/or public relations benefits. The group concluded that, generally, the public sector cannot really influence the private sector, but agreed on proposals for action on the need for: a global forum for forest research priority setting; involvement of international and national level private and public sectors and NGOs; an efficient mechanism ensuring wide consultation; and an effective electronic communications system.

During Plenary comments, Denise Rousseau (Canada) noted that many countries have limited forest cover and are therefore not attractive for private sector investment in forestry. John Innes cautioned against a new mechanism, but encouraged more collaboration between the governing bodies of existing forest-related organizations, as concluded at IFF-2. He said IUFRO could be a mechanism to bridge the gap between policy and research.

The discussion group on developments in frontier science and their impact on forestry research concluded that: countries that can afford to develop new technologies should do so; the focus of poor developing countries might best be directed to applying existing technology; duplication needs to be minimized; there is always a need for forest specific technology; networking is useful to transfer knowledge and build capacity; intellectual property rights and access to technology are issues needing to be addressed; and Geographic Information Systems (GIS) /information technology is proving useful to information sharing and consensus building. The group recommended: making better use of existing programs and networks, specifically with regard to frontier technologies; creating better information flows, particularly with regard to frontier technologies; attempting to make

"technology led" innovations relevant to policy decisions; building networks for expert advice on specific issues; and creating research support for international policy decisions. In Plenary, Iba Kone (Kenya) questioned the suggestion that developing countries should rely on existing technologies. Gary Dolman (Australia) suggested that developing countries should avoid using high-risk technologies.

The discussion group on meeting the technology needs of the poor and marginalized people and increasing the involvement of households and communities in tree growing and other enterprises concluded that: agendas for the poor are often set by the non-poor, such as donors and NGOs; the real issues are poverty and access to resources; the poor must be involved in agenda setting in order to improve their treatment; how to empower the poor and give them a greater voice remains an unanswered question; and solutions to poverty alleviation may lie either within or outside the forestry sector, and therefore other sectors must be examined in order to give the poor a greater voice. On what issues can be addressed, the group stressed having a broad view of constraints and solutions, because there are many issues surrounding forests, but forests are only one issue surrounding the poor. It also noted that: there are many successful examples of involving the poor in applied and adaptive research, such as in Central America and China; it is important to involve other actors/stakeholders, such as government, NGOs and the private sector; a balance is needed, such as between the private sector and traditional groups, with regard to indigenous knowledge related to biodiversity; and the problems of the poor must be mainstreamed rather than marginalized.

ROLES OF GLOBAL AND REGIONAL NETWORKS AND CONSORTIA IN STRENGTHENING FORESTRY RESEARCH:

On Tuesday a discussion paper on "Roles of Global and Regional Networks and Consortia in Strengthening Forestry Research" was presented by C.T.S. Nair on behalf of co-author Dennis Dykstra. In a panel discussion, Ian Hunter, Jeff Sayer and Jacques Valeix (France) noted omission of some networks in the paper whose inclusion might have led to different conclusions. Jag Maini asked how to help countries address issues while they are still building capacity.

The discussion group on increasing emphasis on environmental and biodiversity values determined that the discussion paper did not fully recognize other types of networks such as voluntary, mandatory and intra-institutional, noting that many successful networks already exist. The group noted that many networks are very successful in handling a shift in emphasis toward environment and biodiversity issues, though top-down approaches to change are constrained by funding agencies. The group emphasized the importance of functions such as lobbying, funding, education, technology transfer, sharing material and experiences and setting standards in order for networks to be helpful. Networks also: give strength to individuals, organizations and countries dealing with important issues such as bio-prospecting; recognize emerging issues such as carbon sequestration; and help extension activities.

The discussion group examining the participation of stakeholders in networks and consortia concluded that the general models of research and development networks used to date are inadequate. The group identified relevant stakeholders such as scientists of different disciplines, users of research, donors and beneficiaries of research, and concluded that stakeholders will choose not to collaborate if incentives are lacking. The group recommended that appropriate research should start with and lead to beneficiaries' needs, a link that is missing in current research networks and consortia, and underscored that networks should be results oriented and learn from examples of successful and unsuccessful experiences. The group suggested that the IFF set the research agenda together with stakeholders and advocate this approach to donors.

The discussion group on private/public sector collaboration in networking identified three collaborative modes: private-private sector; public-public sector; and private-public sector. Collaborative mechanisms may consist of networks, joint projects or consortia, on either up-stream research topics or general topics such as sustainability. They identified private sector motivations for private-public collaboration to include: social responsibility; early access to knowledge, material and human resources, market information and financial resources; benefits from joined efforts and resources; image improvement; access to new markets; new partnerships; and influence over the public research agenda. Public sector motivations include to: contribute to global economic sustainability within the private sector; achieve a better sense of reality; become more customer-oriented; access additional information, human resources and material; and enlarge its financial base with new resources. The group's proposals for public sector action include to: develop and propose criteria and indicators on forest sustainability; establish a market strategy to attract the private sector; have results easily available; and respect confidentiality when agreed upon.

Networks discussed in the group on developments in frontier areas of science included methodological networks that would assume mentoring and training roles, supplementary networks that supplement the use of expensive hardware, and monitoring networks at regional, national, and international levels. Cost, language, user friendliness, and the lack of international standards were noted as constraints in network development. Training, access to equipment, and collaboration with supplementary networks were suggested as means of capacity building in developing countries. It was noted that the development of new networking technologies, such as real-time video conferencing and virtual organizations, would change the means of communication between scientists. A directory of all forest research was proposed. Consultants were reminded that their suggestions should not overlook human needs or the access problems of developing countries. Protocols, development of international standards, stable funding and a clearinghouse function were suggested. Overall, the group recommended both the application and expansion of existing networks and coordination with the UN system.

The discussion group on the poor and marginalized noted that no global solutions exist to solve national problems but that networks can work to improve research. Constraints identified included: lack of access to information technology for the poor and marginalized; lack of ability to utilize new technologies; unsuitable operational environments; and a need to distinguish between the urban and rural poor. The group recommended: building capacity among the poor so they can provide research networks with information and benefit from other global networks; distinguishing between inadequately equipped researchers and the poor themselves; empowering the poor by exposure to other areas; and building confidence in their ideas. The group also recommended: identifying and empowering local leadership to link with the mainstream; addressing communication barriers; recognizing the extension service as an essential interface between researchers and information end users to identify needs and evaluate gaps and shortcomings in research solutions; updating library resources with recent information; and strengthening and reinforcing national participation to be able to handle global issues.

In Plenary, Svend Korsgaard (ITTO) commented that, rather than Northern donors setting a North-based research agenda, the IFF could open up stakeholder dialogue. Ilkka Ristimäki suggested that a process whereby the scientific community could answer contentious issues that arise in the political process with an indisputable body of knowledge might be useful for the IFF and suggested ICRIS consider proposing this as one element to meet the IFF's mandate of identifying "international arrangements or mechanisms, for example, a legally binding instrument."

MECHANISMS FOR FORESTRY RESEARCH CAPACITY

BUILDING: On Tuesday Robert Szaro (IUFRO) introduced the discussion paper: "Mechanisms for Forestry Research Capacity Building" on behalf of co-authors Wade Bowers, Iba Kone, Oudara Souvannavong and Erik Thulstrup.

In Plenary discussion Robert Szaro noted that stakeholder interest should be the generator of research policy and that the government constitutes one of the stakeholders while it must also develop policy that represents all stakeholders. Tage Michaelson (IFF) informed the group on how its recommendations will go to IFF-3. He noted that the ITFF is an established channel for getting foresters' concerns to the decision-makers, and that its recommendations are not only for IFF-3 but also for the long term. He asked the discussion groups to consider this.

On mechanisms for forestry research capacity building, the discussion group on environmental and biodiversity research identified key themes, including: information systems versus libraries; land use planning; resource inventories; manpower training; capture of outside interests such as agriculture and mining; education of the general population and power brokers. The group recommended that mechanisms for capacity building focus on: mega-diverse areas; strengthening of traditional knowledge and use; development projects; and holistic capacity building.

The discussion group on developing research capacity to meet the needs of different stakeholders recommended that: governments develop a policy framework that addresses all stakeholders, specifies the role of forestry research and defines research incentives; bottom-up venues be created to allow beneficiaries to relate their research capacity needs, either capacity building or specific outputs; gaps in the development of a policy framework be identified by researchers; and researchers be taught and encouraged to publish their results in a form understood by policy makers, land managers, forest-dependent people and other researchers. The group noted that capacity is required to obtain information needed by beneficiaries and that countries should determine how they can most effectively gain it, either by generating it themselves or acquiring research from outside.

The discussion group on private sector involvement in capacity building reported that the question was how to make investment in capacity building attractive to the private sector and said the need for quick results must be overcome. On elements to be considered in capacity building, the group recommended: policy at the national level; networking and sub-regional institutions; human resource development; access to and capacity to use information resources; and adequate finance, especially for infrastructure. They noted that the main overall financial flow in forestry is increasingly through the private sector in forest-rich countries but there is virtually no private sector involvement in capacity building in forest research in developing countries. They noted that the private sector has to be convinced that capacity building is in their direct interest, through larger rent capture and other financial incentives to fund capacity building and provide direct private sector support for "sharing the global knowledge base." The group also noted the important role of the non-profit sector and said that the private sector and foundations should be convinced to support strong university systems.

In discussing mechanisms for capacity building, the discussion group identified a number of frontier science examples, including: modeling climate change; population and ecosystem modeling; genomics; population dynamics; information technology; and GIS. They concluded that capacity building in frontier science should reflect the needs and resources of countries and recognise the often expensive nature of the science. The group noted the lack of incentives for scientists to continue working in developing countries and that stakeholders are normally not informed of the potential benefits of frontier science. They recommended: using various networks to

provide access for scientists in less developed countries; developing long-term educational partnerships to build capacity; establishing regional specialist facilities in relevant areas in frontier science; and developing reward systems to encourage excellence in research, particularly in developed countries.

The discussion group on the poor and marginalized stated that: the main issue in capacity building is often not more resources but identifying and training well-motivated and committed scientists; the experience of other organizations and professions are of great value for understanding needs and priorities of the poor and marginalized, because often the solution lies outside the forestry sector; and capacity building in forestry research, including work involving the poor, is a long-term process requiring commitment and a multi-disciplinary approach. The group recommended that issues of concern to the poor take higher priority in the international forestry debate, donor funding and research communities. In addition, the group noted that: helping developing countries identify their research needs and priorities is critical, particular for poverty alleviation; donors should support able scientists and innovative mechanisms such as South-South collaborative research programs; and poor and marginalized people should become a part of the research process, not simply as beneficiaries but as the main stakeholders.

In Plenary, Jeff Burley said donors should identify and support outstanding scientists in order to guarantee their continuing involvement in capacity building. Björn Lundgren (International Foundation for Science) said that the scientific community also fails to recognize their achievements. Jeff Sayer said aid should be less concerned with solving immediate problems and more with developing the capacity to solve problems.

CHANGING PATTERNS OF RESEARCH FUNDING: THREAT OR OPPORTUNITY FOR RESEARCH ON FORESTS: On Wednesday Ian Hunter and Jeff Sayer jointly presented the discussion paper "Changing Patterns of Research Funding: Threat or Opportunity for Research on Forests." In discussing how to mobilize research funding, the group on environmental and biodiversity values suggested this goal was central to the meeting and should have been discussed earlier. They questioned why money was not flowing through to forestry research, why private industry was not in attendance at this meeting and whether private industry should pay for 'public goods' such as environmental and biodiversity benefits of forests. The group noted that timber certification is a market mechanism that takes into account 'public goods' and also noted the need to develop linkages with cross-sectoral issues such as water catchment protection and carbon sequestration. It was suggested that IUFRO was not addressing important issues arising out of the IPF/IFF and that a special IUFRO task force should be established on improving funding in relation to biodiversity and land use conflicts, noting that this may become a sustainable forest research facility. The group acknowledged the research funding difficulties being experienced by foresters in the Russian Federation.

The discussion group on stakeholders and research funding noted that stakeholders' influence on research funding is dependent upon the type of stakeholder and the level (local, national or global) of funding, and a bottom-up mechanism to provide a venue for beneficiaries is needed. The group also noted that the role of scientists and the government is to act as intermediaries between stakeholders and the funding source and that governments should provide of a favorable policy environment by offering incentives to scientists. In considering whether funding should be focused on buying outputs rather than financing inputs, the group acknowledged that while these are distinct interests a balance must be struck and, to this end, emphasized that researchers should create a demand for forestry research output, measure research institutions' performance and possibly create a Southern consortium to focus on development issues. The group noted

that successful models such as the Consultative Group on International Agricultural Research (CGIAR) already exist and called for a stronger role for stakeholders, work on all levels and marketing the need and outputs of forest research. The group said researchers should focus on four main areas for creating markets – biodiversity, carbon sequestration, watershed protection and ecotourism. They recommended that the IFF focus on these objectives and generate demand for research. The group concluded that forestry scientists welcome a shift to output funding and that the scientific community should be invited to respond to the demands of the global forest policy dialogue.

The discussion group on the private sector noted that national interests are: financial return; meeting legal obligations; and finding market drivers. Internationally, the private sector is interested in clarification of global issues, public relations and market access. The public sector's interests, at both the international and national levels, are environmental, social, economic and legal. The group recommended establishment of: an international strategic forest research funding facility, with both intergovernmental and private sector funding; a scientific advisory body to facilitate the international forest policy process; and a mechanism for private and public sector funding of national-level research.

In the discussion group on frontier areas of science and their impact on forestry research, it was noted that, while private investment is common in the field of biotechnology, frontier areas of science might appear expensive and risky to prospective donors. Increased dialogue with the private sector, demonstration of the positive aspects of forest research and the investigation of fiscal measures, such as tax incentives, were suggested as ways of marketing forest research to mobilize funding. The group discussed development and marketing of long-term research and suggested that forestry research become more invested in taking up new technologies, and that equity in the application of frontier areas of science be ensured.

The discussion group on poor and marginalized peoples called for: emphasis on the relationship between forestry, environment and poverty; a shift to demand-driven (not necessarily market driven) research; development of linkages with other sectors; diversification of funding sources to other sectors; a proactive role for forest researchers to sell their products and services; improvement of research prioritization to avoid distortions induced by short-term considerations; a mechanism to assess impacts and provide feedback; and improved dialogue with policy makers.

In Plenary Fred Kruger said many countries' policies are driving environmental work toward the market. Jeff Sayer noted that tax incentives or levies could pay for collective goods to maximize good results while minimizing possible inequities. Ian Hunter said that while governments want to buy research to make good policy decisions and to fund public goods research, government commitment to public goods is waning. Jeff Sayer noted forest research institutes' 150-year accumulated public knowledge base and said policy makers must be convinced to provide new investment for further development of that knowledge base. Paul McFarlane (New Zealand) expressed concern about the problem of grappling with "big issue," multi-disciplinary research while there is increasing private sector interest in short-term issues and decreasing government interest in long-term issue research. He also said CGIAR is not a good vehicle for addressing links between forests and agriculture. Jag Maini noted that policies are always based on imperfect knowledge, but if scientists respond to policy makers' time horizons and their demands for information, policy makers might be more responsive to scientists' longer-term needs. Julian Evans said forest researchers should address issues such as climate change, social dislocation, urbanization and poverty alleviation, not just engage in "special pleading" for research funds. Tage Michaelson, noting forest-related research done under different names, asked how to relate forest research to research in other sectors,

such as watershed, biodiversity or carbon sequestration research. Ian Hunter noted a 20% decline in forest funding overall, including new funding in other areas, and said foresters' capacity to deal with new issues must be increased in both the developed and developing world. John Innes expressed concern about the inconsistency between trying to make information more accessible to stakeholders while also charging for data and "marketing" research.

Co-chair Silitonga stressed the need for a strong network to promote the importance of research to address problems of developing countries and the need for governments to get the private sector interested in research such as through tax reductions. Paul McFarlane commented that privatization gives information a monetary value and thus restricts its dissemination, but potential positive effects include more responsiveness of scientists to the stakeholder community. Colin Ogbourne said much of the research already done is neglected and stressed getting the private sector more involved in building up the public global knowledge base. Benni Sormin said a forest research fund idea is good if it does not condition what research countries may undertake.

BETTER ACCESS TO INFORMATION ON FORESTS: On Thursday Ilkka Ristimäki presented a discussion paper on "Better Access to Information on Forests" on behalf of co-authors S. Iremonger, V. Kapos, E. Landis, R. Mills, R. Päivinen, G. Petrokofsky, T. Richards and A. Schuck. The paper calls for a consortium operating a system for forest information on the Internet with the proposed name Global Forest Information Service (GFIS). In a Plenary discussion, Eric Landis stressed the GFIS as a link between the information provider and the user. Colin Ogbourne suggested adding CD-ROM and some interpretive analysis for policy makers. He stressed capacity building on electronic publishing in developing countries and financing through commercial sponsorship. Benin Sormin asked how much the mechanism would cost and whether an existing organization or a new one should undertake it. Risto Päivinen said information providers need to judge the cost of what is needed and opposed new organizations. Galina Arkusinski (World Bank) recommended drawing lessons from metadata services already set up for related fields.

The discussion group on better access to information in relation to environmental and biodiversity values of forests suggested that biodiversity and environment were not special cases, rather there is a general need to access information on forest issues. They recognized that highlighting biodiversity issues was effective for generating funding and noted that research management would need to adapt to information technology (IT). The group highlighted that IT: avoids duplication of resources; increases opportunities for contacts; allows monitoring of existing research and gaps; creates better access to funding; provides a tool for managers to benchmark research; creates improved access to publication; and increases partnerships between scientists and managers, hence improving accountability and participation. The group suggested that an international IT system would: need a structure with quality control and standards; require compatibility and evenness of information; be based on a survey of IT access; and include individual policies for each participating agency. They also recommended that aid programmes include IT support.

The discussion group on the involvement of stakeholders noted that different stakeholders and their differing information needs, technology problems, levels of access to information or cost problems are not addressed equally. The group concurred that there is currently no adequate information network in forestry, and that the concept of GFIS appears to be technology-dominated, necessitating technology experts, substance experts and communication specialists. The group endorsed the idea of a GFIS and a metadata system via the Internet, and proposed developing a simultaneous process on both the global and regional levels while stimulating the development of local initia-

tives through existing initiatives. The group stressed that the system should be demand-driven and called for the creation of a steering committee that would work closely with existing information organizations and initiatives and would be responsible for outreach at the local level. The group recommended that a GFIS including various specialists be established and that outreach testing be conducted by piloting existing mechanisms.

The discussion group on private investment recommended that ICRIIS support the proposal for establishment of a GFIS. To optimize sustainability and widespread use of the GFIS system, the group suggested that commercial support be actively sought. Direct subsidy programs for central management costs and set-up, in addition to in-kind support, was highlighted as a means of attracting private sector involvement. Ways of expanding use of the GFIS included granting advertisement space to IT and forestry industries and product development and testing programmes. Private industry sponsorships and subsidized access were suggested as a means of facilitating developing country access, along with direct charging for GFIS programs and direct product service advertising for managing the system operation costs.

In discussing better access to information, the group on developments in frontier areas of science suggested there is a need for information at various levels, including raw data, aggregates, metadata and better access to existing information. They warned against overloading users, instead preferring development of systems to create potential for synthesizing information at appropriate levels. The group suggested that UN bodies should have an important role in a GFIS, while noting that a GFIS requires equal attention on all levels. They noted that digesting information could be a controversial process and observed that differences in information cultures should be considered when establishing a GFIS. The group recommended that the GFIS concept should: be endorsed; provide better access to existing information; provide adequate selection of information on various user levels; be based on prescribed protocols; and contain a metadatabase on its members. They noted that: national policymakers should improve their technical back-up capacities to interpret data from a GFIS: mechanisms for permanent development of the system need to be established; and tools for economic sustainability should be sought.

Regarding the needs of the poor and marginalized, key issues identified included: forestry based on marginal areas; information needs of local communities and small farmers; the long-term potential of local producers in the regional and world markets; access problems in rural areas; intellectual property rights; political and legal impacts; and specific national- and local-level needs. The group produced a statement that "mechanisms of communication between providers and users of forest information services are not enough to overcome the needs of poor and marginalized people; however, there is a need to coordinate international initiatives on global databases and management information systems."

The group proposed broadening the GFIS concept to a "global clearing house on forest resources," with IUFRO as the lead. Conclusions were drawn on the need to focus on: the relevance of GFIS to poor people; data needs; information on non-wood aspects; the political nature and power of information; local services for dissemination of forest information; intellectual property rights versus farmers' rights; and the political and legal impacts of a GFIS. The group recommended: an advisory board on the political implications of the GFIS system; case studies in some developing countries; awareness of threats to the poor if information flows only one-way; and capacity building at the national level.

In Plenary, Risto Päivinen underlined stakeholder involvement, including in capacity building, and noted the extra costs and workload of expanding the GFIS proposal. Julian Evans underscored that the support of the group on the poor and marginalized was conditional on

recognition of the power of information, the abuses and misuses of it, and the advantages the strong have in using it. He said the GFIS should especially serve the interests of the poor and marginalized. Jacques Valeix added that a decentralized approach is important, and called for a regional, bottom-up approach. Eric Landis responded that IUFRO was the authors' choice for a lead because it is decentralized in many respects.

Benni Sormin underlined the importance of an information interface to marginalized people, noting that the poor need printed information as well as capacity building and access to electronic sources. He cautioned against exploiting information from developing countries for developed countries' benefit. Willemine Brinkmann (The Netherlands) noted that the stakeholders discussion group said the GFIS must interface with existing organizations within and outside the forestry sector which deal with information provision down to the local level. Günter Siegel (Austria) said the IFF asked international organizations to compile information about existing information and stressed harmonization of methodologies for collecting and reporting data pertaining to existing legal instruments and the IPF proposals for action.

REVIEW OF DISCUSSION GROUP REPORTS

On Thursday afternoon participants reviewed the consolidated reports of the discussion groups in Plenary. In reference to existing mechanisms under the topic of research priority setting, John Innes urged the inclusion of definitions to distinguish between "mechanisms" and "instruments." On forest research networks and information systems, Jacques Valeix highlighted the need to refer to "regional" networks rather than just "global networks." Alfred de Gier (The Netherlands) suggested that the recommendations on capacity building did not read like recommendations and needed to be rephrased. Regarding funding mobilization, Benni Sormin suggested that in relation to providing scientific inputs into the IFF, these should not be "agreed" inputs. No comments were made regarding information technologies.

PROPOSALS FOR ACTION

Following the review of the discussion reports the participants next discussed a draft set of proposals for action introduced by Ingwald Gschwandtl. The proposals for action support three principal suggestions, that IFF: recognize the value of science capacity building in developing countries; support the development of a GFIS; and consider the establishment of a consultative body to bring together policy makers, funding agencies, forests scientists and other stakeholders.

Peter Glück called for language on enhancing the equitable involvement of all stakeholders. Robert Szaro said science needs improving by being broadly integrated rather than focusing on one discipline, and policy makers must be shown how science is relevant. Cornelius Van Tuyl (Germany) stressed forestry's contribution to sustainable development as the final objective. He asked why CIFOR and FAO were not included in the proposal to establish a task force and called for regional capacity needs to be highlighted. Julius Centeno (Venezuela) called for the proposal for a GFIS to highlight making information effective and accessible for all stakeholders.

Fred Kruger noted that the predominance of northern science on policy needs to be discussed in the conclusions and proposals and called for recognition of changes in methods for managing information. Horst Freiberg (Germany) stressed a "global network" for sharing information and an open, participatory approach. Iba Kone noted that ICRIS comprises many stakeholders and said IUFRO, in consultation with other key players, should take the lead. C.T.S. Nair cautioned that many points in the conclusions are already familiar to the IFF. Ian Hunter asked if the recommendations were really geared toward problem-solving.

Julian Evans called for a clear reference to poverty alleviation in the action proposals. Gabriele Loeffler-Obermayr (Austria) stressed consistent "SFM" terminology and the need to mention existing mechanisms dealing with issues referred to here, such as the CBD work programme on forest biodiversity. She recommended streamlining the work of any consultative body with the CBD's SBSTTA and the IPCC. Robert Szaro said the proposals should focus on IUFRO's offer to start a process but recognize that help is needed to finish it. Kamis Awang (Malaysia) called for a conclusion and proposal on financing "for better human resource development in developing countries."

Benni Sormin called for "local" issues to be considered along with national and regional ones and said IFF recognition and support of the GFIS should be broadened to include financial support and technology transfer. Günter Siegel said the document should outline the purpose of the GFIS and consider which body should lead it. Peter Czoka (Hungary) said national policies should come out of national processes, but that regional processes can contribute to national priority setting. He recommended relying on existing institutional fabric. Pape Ndiengou Sall (Senegal) said developing countries must develop national capacity. Paul McFarlane said the drafting committee should target important outcomes to achieve and paths toward achieving them.

John Innes called for the documents to be put into simple language. Yves Birot recommended mobilizing the strengths of IUFRO members and developing a mechanism for speeding the work of the task force. Jeff Burley noted that while IUFRO is already active, it should not necessarily appear that IUFRO should do the whole operation exclusively. Julian Evans opined that the recommendations did not fully encapture the conclusions from the discussion groups.

Enos Shumba, supported by Peter McFarlane, expressed concern that the recommendations did not make any reference to poverty or marginalized people. Björn Lundgren urged that the language be kept simple and that reference to poverty and equity issues was already made in IFF documents. He encouraged the maintenance of the three major recommendations. Gary Dolman said that the proposals had some very positive elements but encouraged: reference to reward systems for good science, a description of the GFIS, the retention of the reference to criteria and indicator processes and the replacement of text calling for identification of possible science elements "of an international instrument on forests" with "that require international or regional cooperation" on forests. Thomas Mills recommended adding to the consultative body's functions the synthesis of knowledge that can contribute to the international dialogue on forests.

A panel, chaired by Ingwald Gschwandtl and including Jeff Burley, Jag Maini, Jeff Sayer, Toga Silitonga and Oudara Souvannavong, responded to the numerous comments received during the Plenary session. Jeff Sayer supported many of the comments. He warned against reiterating statements that had been made at IFF about supporting the work of scientists in developing countries, and suggested that the recommendations address how this should happen. Jeff Burley called for substantive recommendations to the IFF for a fund, a GFIS and a forum or grouping to bring scientists and policy makers together. He noted that it was difficult to get IUFRO scientists to think about global debates and hence a special task force was required. He stressed that IUFRO should look at emerging issues and hence reference to 'forests and water' should remain. Jag Maini opined that the IFF only has eighteen months left, and any recommendations must have a longer lifespan. In this context, the recommendation for a consultative body should be separate. He also urged the group to consider elements for further forest policy guidelines and, with Toga Silitonga, urged reference to enhancing the capacity of developing countries.

Due to a lack of agreement on proposals for action coming from the final Plenary, the Consultation agreed to establish a small 'Friends of the Chair' group. This Group will prepare a consolidated set of proposals for action based on comments made in the final Plenary and publish it on the IUFRO web site. Two weeks will be allowed for comments from the Consultation participants. A final revision of the proposals for action will then be transmitted to IFF-3.

CLOSING PLENARY

Co-chair Gschwandtl expressed his pleasure at having had the opportunity to convene ICRIS in Austria and to co-sponsor the consultation with Indonesia. He emphasized his satisfaction with the Consultation's results and attendance by high-level forestry experts and stated that the Consultation was a capacity building exercise at the national level. He thanked those responsible for the preparation and organization of ICRIS.

Co-chair Silitonga noted that Indonesia has been successful in the past at curbing its birth rate, but as its life expectancy has increased, the population growth rate continues unabated. He said that Indonesia needs more infrastructure, schools and hospitals, making it almost impossible not to utilize forests to improve capacity building, and further noted that Indonesia could not always rely on the international community for aid.

In closing remarks, Jeff Burley, Jag Maini, Jeff Sayer and Oudara Souvannavong also thanked the governments of Austria and Indonesia and organizers of ICRIS. Sayer said investments in research will have greater benefits in the long term than conventional project aid, and he expressed hope that the forestry scientists could use this to their advantage in the future. Maini said ICRIS would provide a valuable contribution to facilitating the IFF process. Co-chair Gschwandtl closed ICRIS on Thursday at 6:15 pm.

A BRIEF ANALYSIS OF THE ICRIS

Science Meets Policy?

The theme for the International Consultation on Research and Information Systems in Forestry (ICRIS), forestry's contributions to policy-making, proved a significant challenge for the participants. As the week progressed it appeared increasingly evident that meeting the goal of influencing policy may depend both on expanding the definition of forestry to encompass full "forest ecosystem management," in the words of one participant, as well as on responding to new agendas.

Whether foresters meet the challenge of a changing world appears to depend on whether they can break what some call "the shackles of their upbringing." For some, forestry is still about soil fungus, bark beetles and diameters at breast height. While others more conversant in consensual policy-making processes reminded delegates that forestry science is only one small component of a larger whole. This dichotomy of perspectives was very noticeable at ICRIS. For example, while at least one commentator called for forest scientists to make the connection between forests and water management, others argued against its relevance. One discussion group questioned the relevance of researching biodiversity in connection with forestry using information technology. This caused some to note that this was one more example in yet another forum of forestry scientists' unwillingness to consider biodiversity issues.

Turf Wars

To some extent, the need to face new agendas was laid down as a challenge for IUFRO itself. Corridor discussions on a proposal to recommend development of a consultative body to bring together policy makers and scientists reflected questions of whether IUFRO has the institutional capability to take up such a political agenda. Failure to achieve a quick consensus on the recommendations to be put forth to IFF-3 demonstrated there was still a variety of views on how best to proceed with this proposal. The lack of consensus on recommenda-

tions for IUFRO's role might also reflect a sense of competition between IUFRO and intergovernmental bodies such as CIFOR to have influence on the international forest dialogue. While some participants argued that forest issues are too broad to be handled by IUFRO, others countered that no new body is really needed to enable scientists to be heard by policy-makers, given the role of CIFOR in the ITFF.

A Building Block for a Forest Convention?

The divergence of views on IUFRO's role in the international forest dialogue was part and parcel of a larger debate that no international forest meeting can avoid: the question of whether or not to attempt negotiation of a forest convention. It was clear that some participants came to the meeting with an agenda to produce a recommendation to establish a scientific institution that would form one of the building blocks of a forest convention. The first draft of the proposals for action made specific reference to this. However, this text was challenged by one governmental representative, and another sought recognition of existing conventions. While some pushed for consideration of existing work under the CBD, one participant expressed fear of a "take-over" of forest issues by other conventions. The impasse apparent at IFF continues.

Lessons Learned

The impasse over a convention was only one of the points of contention left without resolution at the end of the meeting. It became evident to some during the week that the small group discussions were not in themselves going to produce a coherent set of documents to forward to the IFF, and a conscious effort was made to draft a set of conclusions and proposals for action. While this draft did not in the end obtain consensus from the full group, it provided a springboard for continuing electronic discussion and refinement of the proposals, as well as a test of the usefulness of the Internet to bring about a "virtual" meeting of minds over the next few weeks. The process was also successful in teaching several lessons to at least some of the participants involved:

- Worthy efforts were made by many to organize discussions under themes emphasizing connections to the issues facing humanity today, such as by including stakeholders and the needs of the poor and marginalized. Some noted, however, that this division into themes led to artificial discussions in some cases, in part because of the absence of groups representing these interests, including the private sector, NGOs and indigenous peoples.
- This absence, as well as the lack of a drafting group with representatives from each discussion group, were cited as contributing to the failure to achieve a final document upon which consensus could easily be reached. This lesson has been taken on board by some in planning as inclusive a process as possible for continuing electronic discussions over the final output.
- A larger lesson learned from the lack of more inclusive participation was how easily pleas for greater recognition of the connection between forests and poverty alleviation fell through the cracks in the final draft proposals for action. It also highlights the need to continue striving to meet the conference's aim not simply to repeat language already heard many times over, but to propose paths and mechanisms for achieving desired objectives. It is not enough, for instance, to say that forestry science should contribute to poverty alleviation, the question to answer is how; this might be more effectively addressed by including some of the very people most affected by this issue.

Austrian Hospitality

A final lesson which may be drawn pertains to the standard which ICRIS' organizers have set for future conferences to live up to. The meeting went like clockwork. For those who attended the field trips, the exposure to the precision of Austrian forest management was a real eye-opener. Despite some obscure political undertones, most agreed that it was a success, attributed in no small part to the efficiency and gracious hospitality of the Austrian hosts.

THINGS TO LOOK FOR BEFORE IFF-3

GLOBAL CONCERNS FOR FOREST UTILIZATION -

SUSTAINABLE USE AND MANAGEMENT: This meeting will be held from 5-8 October 1998 in Miyazaki, Japan. For more information contact: Kiyoshi Yukutake, Miyazaki University, Faculty of Agriculture & Forest Economics, 1-1 Gakuen Kibanadai Nishi Miyazaki 889-21 Japan; tel: +81-985-582 811; fax: +81-985-582 884; Internet: <http://www.miyazaki-u.ac.jp/FORESEA>.

INTERNATIONAL BOREAL FORESTS MANAGEMENT

CONFERENCE: An international conference on better understanding of how to manage the world's boreal forests will be held from 5-10 October 1998 in Tartu, Estonia. It will deal with non-consumptive uses and indigenous peoples' uses of the forests. For more information contact: Taime Puura, Estonian Green Movement, P.O. Box 318, Tartu, EE2400, Estonia; tel: +372-7-422-598; fax: +372-7-422-084; e-mail: forest@erl.tartu.ee; Internet: <http://www.online.ee/~roheline>.

FOREST ECOSYSTEM AND LAND USE IN MOUNTAIN

AREAS: This meeting will be held from 12-17 October 1998 in Seoul, Republic of Korea. For more information contact: Don Lee, Seoul National University, College of Agriculture and Life Sciences, Department of Forest Resources, 103 Seodoondong, Suwon 441-744 Republic of Korea; tel: +82-331-2902327; fax: +82-331-2931797; e-mail: leedk@agri.snu.ac.kr.

INTERNATIONAL CONFERENCE ON TROPICAL

FORESTS AND CLIMATE CHANGE: This meeting will be held from 19-22 October 1998 in Manila, the Philippines. For more information contact: the Conference Secretariat, Environmental Forestry Program, UPLB College of Forestry, 4031 College, Laguna, the Philippines; tel: +63-49-536-2342; fax: +63-49-536-2341; e-mail: Rdl@mudspring.uplb.edu.ph.

ENVIRONMENTAL FOREST SCIENCE CONFERENCE:

This meeting will be held from 19-23 October 1998 in Kyoto, Japan. For more information contact: IUFRO8, Kyoto University, Uji, Kyoto 611, Japan; tel: +81-774-384110/384111, fax: +81-774-384300/325597; e-mail: iufro8-sec@bio.mie-u.ac.jp or L-NEWS@land-slide.dpri.kyoto-u.ac.jp; Internet: <http://www.bio.mie-u.ac.jp/iufro8/bulletin2.html>.

25TH SESSION OF THE INTERNATIONAL TROPICAL

TIMBER COUNCIL: The ITTC's next meeting will be held from 3-9 November 1998 in Yokohama, Japan. For more information contact: International Organizations Center, 5th Floor, Pacifico-Yokohama, 1-1-1, Minato-Mirai, Nishi-ku, Yokohama, 220 Japan; tel: +81-45-223-1111; fax: +81-45-223-1110; e-mail: Itto@mail.itto-unet.ocn.ne.jp; Internet: <http://www.itto.or.jp>.

CONTRIBUTIONS OF SCIENCE TO THE DEVELOPMENT OF FOREST POLICIES: This meeting will be held from 7-15 January 1999 in Pretoria, South Africa. For more information contact: Perry J. Brown, Montana Forest and Conservation Experiment Station, School of Forestry, University of Montana, Missoula, Montana 59812 USA; tel: +1-406-243-5522; fax: +1-406-243-4845; e-mail: pbrown@selway.umt.edu.

GLOBAL WORKSHOP ON UNDERLYING CAUSES OF DEFORESTATION AND FOREST DEGRADATION:

This meeting will be held from 18-22 January 1999 in San José, Costa Rica. It is part of a joint initiative of NGOs and the Government of Costa Rica to contribute to the IFF and will build on the outcomes of seven regional workshops and one indigenous peoples organizations' workshop. For information contact: Netherlands Committee for IUCN; tel: +31-20-6261732; fax: +31-20-6279349; e-mail: slovera@nciucn.nl.

INTERNATIONAL EXPERT MEETING ON THE ROLE OF

PLANTED FORESTS: Sponsored by the Governments of Chile, Denmark and Portugal, this meeting will take place from 22-26 February 1999 in Santiago, Chile. For more information contact:

Carlos Weber, Chilean Forest Service, Eliodoro Yañez 1810, Santiago, Chile; tel: +56-2-2043251; fax: +56-2-2250428; Internet: <http://www.dg-florestas.pt/plant-meeting>.

SEMINAR ON PRACTICAL TRADE-RELATED ASPECTS OF SFM: This seminar, sponsored by Brazil, in cooperation with UNCTAD and ITTO, will take place from 23-25 February 1999 in Geneva, Switzerland. For more information contact: Maria Nazareth, Brazilian Mission to the UN; tel: +41-22-929-0913; fax: +41-22-788-2506; e-mail: lele@itu.ch.

EXPERT MEETING ON INTERNATIONAL ARRANGEMENTS AND MECHANISMS: In support of IFF Category III, the Governments of Canada and Costa Rica will host an expert meeting in San José, Costa Rica, from 9-12 March 1999. The objective of this meeting is to identify possible elements and work toward a consensus on the usefulness of international arrangements and mechanisms, for example a legally binding instrument on all types of forests. For information contact: Raúl Solórzano, Ministry of the Environment, Costa Rica; tel: +506-257-5658; fax: +506-222-4580; or Jacques Carrette, Canadian Forest Service, Natural Resources Canada; tel: +1-613-947-9100; fax: +1-613-947-9033.

INTERNATIONAL EXPERTS MEETING ON PROTECTED FOREST AREAS: Sponsored by the Governments of Brazil and the US, this experts meeting will be held from 15-19 March 1999 in San Juan, Puerto Rico. For information contact: Douglas Kneeland, USDA Forest Service; tel: +1-202-273-4725; fax: +1-202-273-4695; e-mail: d.kneeland@if.arctic.com.

INTERNATIONAL WORKSHOP ON MODEL FORESTS FOR FIELD-LEVEL APPLICATION OF SFM: This workshop, hosted by the Forestry Agency of Japan and the Government of Mie Prefecture, will take place from 15-19 March or 23-27 March 1999 in Mie Prefecture, Japan. For information contact: Yuji Imaizumi, International Forestry Cooperation Office, Forestry Agency, Ministry of Agriculture, Forestry and Fisheries, Japan; tel: +81-3-3591-8449; fax: +81-3-3593-9565; e-mail: ifco@po.jah.or.jp.

INTERGOVERNMENTAL FORUM ON FORESTS: IFF-3 will be held from 3-14 May 1999 in Geneva, Switzerland. For more information contact the IFF Secretariat, Two United Nations Plaza, 12th Floor, New York, NY 10017 USA; tel: +1-212-963-6208; fax: +1-212-963-3463; Internet: <http://www.un.org/esa/sustdev/iff.htm>.