

Achievements of the Center for International Forestry Research (CIFOR) 1998–2005



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Highlights

Forests & Governance

- The Forest Stewardship Council (FSC) used research on criteria and indicators of sustainable forest management (C&I) by CIFOR and its partners as an input to the standards it used to certify 5.8 million ha of forest in the tropics. The certification process improved the management of these forests. National working groups in over one dozen countries used the research to develop national criteria and indicators.
- Research on Adaptive Collaborative Management (ACM) involving CIFOR in 30 sites in 11 countries improved the capacity of local communities to plan and monitor their activities and work with other stakeholders. In many of these places the research led to livelihood gains, more secure tenure rights, and fewer conflicts, as well as intangibles such as strengthened self-confidence, negotiation skills and experience in collective action.
- CIFOR's research made policy makers and the financial sector aware of Indonesia's pulp and paper companies' failure to source their raw materials from legal and sustainable sources. It also highlighted the fact that debt restructuring would generate a multi-billion dollar subsidy to the companies and fuel forest destruction. Concerns about these issues led to improvements in the forest management practices of the two largest pulp and paper companies.
- CIFOR contributed to improving the role of local governments in forest management, and law makers in Nicaragua and Mexico took into account CIFOR's research on decentralisation when they designed new forestry laws.
- CIFOR played a prominent role in the formulation of the European Commission's Action Plan on Forest Law Enforcement, Governance and Trade (FLEGT).
- Law makers in Indonesia used CIFOR's research on illegal logging when they crafted a new money laundering law.

Environmental Services & Sustainable Use of Forests

- CIFOR played a prominent role in the formulation of the Convention of Biodiversity (CBD)'s work plan on forest biodiversity and the International Tropical Timber Organisation (ITTO)'s guidelines on the rehabilitation of secondary and degraded forests.

- Projects in various countries have used biodiversity assessment tools that CIFOR helped to design in their conservation planning.
- CIFOR helped to improve and implement the new forest concession system in Peru, and law makers in Peru took into account CIFOR's research on secondary forests when they designed the country's new forestry law.
- Materials on Reduced Impact Logging (RIL) produced by CIFOR and its partners have been used extensively for training in Brazil and Indonesia.
- CIFOR contributed to a number of key decisions of the United Nations Framework Convention on Climate Change (UNFCCC) related to support for forestry activities under the Clean Development Mechanism (CDM). These included decisions related to the rules for small-scale forestry CDM projects, the definitions used, and caps on the number of forestry activities that could be financed through CDM projects.
- Timber plantation companies in Brazil, China, India, Indonesia and South Africa have improved their soil management in ways that will allow them to sustain yields over longer periods as a result of research that CIFOR coordinated.
- Two large companies in Brazil greatly improved their forest management and were certified as the result of a research project of CIFOR and its partners.
- A CIFOR report on fast-growing plantations presented at a United Nations Forum on Forests (UNFF) workshop on planted forests received substantial publicity and was widely discussed among a number of key stakeholders involved in debates over plantations.

Forests & Livelihoods

- CIFOR's research has made a major contribution to greater awareness and understanding among policy makers and opinion leaders of the importance of forests for poor people and how forests can (and cannot) contribute to poverty alleviation.
- CIFOR played a prominent role in formulating the World Bank's forest policy and strategy and influenced the UNFF's approach to forests and poverty and gender.
- A survey of (mostly female) non-timber forest product traders in Cameroon who received information on markets and prices from CIFOR found that 81 per cent believed that the information helped increase their incomes.
- CIFOR's research increased the recognition of the importance and potential of and need to support non-timber forest products (NTFPs) in the Brazilian Amazon.
- CIFOR led the Consultative Group on International Agricultural Research (CGIAR) task force on Integrated Natural Resource Management (INRM). The task force's work significantly influenced the CGIAR centres' approach to research on natural resource management, and provided the basis for the design of the Challenge Programme on Livelihoods in Sub-Saharan Africa.
- Widespread press coverage of CIFOR's research about how policies encouraging beef exports promoted deforestation in the Brazilian Amazon put this issue on the policy agenda.

Multi-programme/General

- CIFOR's research provided direct inputs into the design and implementation of US\$ 200 million of project investments in China, Honduras, India, Mexico and Nicaragua.
- Most World Bank, Food and Agriculture Organisation of the United Nations (FAO), Convention on Biodiversity (CBD), Global Environment Facility (GEF), ITTO and Inter-American Development Bank (IADB) policy documents produced since 1998 that deal with issues that CIFOR's research addresses cite CIFOR publications.
- Most key policy makers and opinion leaders are among the 17 000 individuals who receive CIFOR's catchy Forest Policy Experts Listserve (POLEX) briefs on forests-related policies, produced in English, French, Indonesian, Japanese and Spanish. A high percentage of recipients surveyed read and forward the messages regularly, and a similar percentage say that the messages are relevant and have helped shape their opinions.
- The number of media stories related to CIFOR's research rose from only a few in 2001 to 170 in 2002, 330 in 2003 and 520 in 2004. Many of the world's most prestigious newspapers and magazines ran articles about the research, some of which influenced policy debates related to forests.
- The number of unique visitors and pages visited on the CIFOR web site has increased exponentially, from 19 000 and 65 000 in 2000 to 585 000 and 2 million, respectively, in the first eight months of 2005.
- According to the CGIAR 2004 performance indicators, CIFOR had the 2nd-highest number of peer-reviewed publications per scientist of any CGIAR centre.
- Academic journals covered by the ISI Web of Sciences have cited CIFOR publications more than 1800 times since 1998. The number of citations has increased steadily each year.
- Some 54 doctoral students and 87 Master's students from developing countries, 38 per cent of whom were women, have received technical and/or financial support to undertake thesis research since 1993. (Support for most of these students began after 1998.)

I. Introduction

Shortly after the 1992 Earth Summit in Rio de Janeiro, governments from around the globe established the Center for International Forestry Research (CIFOR). Given the time lag associated with research, substantive results did not begin to be seen until several years later.

After a dozen years, it is time to ask what CIFOR has accomplished. The answer is, 'quite a lot'. This paper shows that CIFOR has:

- established itself as one of the world's leading research institutions focused on tropical forests;
- provided information that national and local policy makers in several dozen countries have used to make decisions;
- directly assisted hundreds of developing-country researchers and practitioners to improve their performance, and provided research tools, methods and data to thousands more;
- influenced the policies, investments and publications of multilateral and bilateral financial and technical cooperation agencies, intergovernmental processes and international NGOs;
- helped shape how the global academic and research community thinks about forests;
- disseminated useful information to thousands of rural households;
- helped convince private companies to adopt more sustainable and socially-responsible policies and practices; and
- increased public awareness of forest issues through the mass media.

These results are all the more notable since CIFOR has never had more than 30 full-time senior scientists. CIFOR achieved the results by entering into partnerships with governments, universities, NGOs, grassroots organisations and individual researchers. In so doing, it lived up to its motto of being a 'Center without Walls'.

It is worth mentioning that a significant portion of CIFOR's work has been carried out in locations plagued by endemic violence, at some risk to the centre's staff. This includes research in the Central African Republic, Democratic Republic of Congo (DRC), India (Jarakhand and the northeast), Indonesia (Aceh and West Papua), Liberia, Nicaragua (northeast) and the Philippines (Palawan and Mindanao). Three CIFOR consultants were tragically killed in Aceh in 1999.

It is difficult to trace the impact of research designed to influence policies – as most of CIFOR's research is. The pathways are often diffuse and indirect and take time to bear fruit. International organisations that take credit for changes in national policies and institutions can wear out their welcome. For the most part, only localised impacts of CIFOR's research can be measured in the field. In most cases the best one can do is

demonstrate that CIFOR's information reached decision makers, opinion leaders and practitioners and that these groups used it.

Much of what follows provides such evidence. Section II shows how CIFOR's activities relate to the mission of the Consultative Group on International Agricultural Research (CGIAR). CIFOR stands out among international forestry organisations for its focus on using forests sustainably to benefit the poor. Section III discusses national and local impacts. CIFOR has conducted research in some 40 tropical countries, although it has been consistently active in only about 15. This section first examines some of CIFOR's multi-country projects; it then focuses on the centre's efforts to build the capacity of developing-country forestry researchers and CIFOR's work at the Malinau Research Forest in Indonesia. Section IV looks at CIFOR's global influence. This includes work with international institutions, processes and activities designed to reach the global academic community and international public opinion. CIFOR has emphasised work at this level due to its mandate to generate global public goods and because it has proved to be an effective way for a small global institution to maximise its impact.

This paper covers CIFOR's achievements since January 1998 only: the centre's first External Programme and Management Review (EPMR) covered the preceding period. The paper does not pretend to be comprehensive.

II. CIFOR and the Mission of the CGIAR

The Center for International Forestry Research (CIFOR) is one of 15 Future Harvest Centers supported by the Consultative Group on International Agricultural Research (CGIAR). The CGIAR's mission is 'to achieve sustainable food security and reduce poverty in developing countries through scientific and research-related activities in the fields of agriculture, livestock, forestry, fisheries, policy, and natural resources management'.

Forests are vitally important to poor people in developing countries and to their food security. Some 240 million people live in forested regions in developing countries: most of them are poor. A recent World Bank study estimates that one fifth of rural households' incomes in developing countries come from forest products. Bushmeat and freshwater fish, much of it from forests, provides more than one-fifth of the protein consumed in 62 Least Developed Countries (LDCs). The World Health Organisation (WHO) estimated that two billion people use medicinal plants – the majority of them from forests – as their primary source of health care. Fuelwood and charcoal provide the main sources of energy for the majority of the rural poor, and rural women and children devote large portions of their time to collecting fuelwood. The International Labour Organisation (ILO) calculates that the formal forestry sector employs 17 million people globally and that informal forest-based activities provide the equivalent of an additional 30 million jobs. This employment is particularly critical for women, who are heavily involved in many non-timber forest-based activities. Forests contribute greatly to national economic growth, exports and tax revenues, and would contribute even more were it not for widespread corruption, tax evasion and subsidies for wealthy groups. Forests mitigate climate change, provide forage, protect and restore soils and water supplies, pollinate crops, and reduce the incidence of weeds. Poor people rely on forests most during periods of household or social vulnerability, such as sickness or death, crop failure, seasonal unemployment, 'hungry seasons' between crop harvests, economic crises and war. Forests thus function as a vital safety net in many developing countries.

To sustain their contributions, those forests that provide a vital livelihood support role must be sustained. Widespread deforestation, over-harvesting of plants and animals, fires, bad logging practices and climate change put that role at risk. New policies, technologies, investments and attitudes are needed to overcome these problems.

To ensure that forests benefit poor people and are appropriately sustained requires good governance. Decisions must be made and implemented through participatory, transparent and democratic processes that consider the poor, women, ethnic minorities and other traditionally marginalised groups, as well as future generations. Steps must be taken to reduce corruption, promote the rule of law, and hold decision makers accountable. Conflicts must be managed to avoid violence and other negative

effects. Presently, hundreds of millions of people suffer the direct and indirect effects of violence in forested regions.

CIFOR is committed to addressing these challenges through impact-oriented research and dissemination and training. The centre's formal structure reflects this: it is organised around three programmes focused on forests and livelihoods, environmental services and sustainable use of forests, and forests and governance.

III. National and Local Impacts

A. Major multi-country research projects

Many of the Center for International Forestry Research (CIFOR)'s identifiable national and local achievements have been within the framework of multi-country projects. These projects seek to attain synergies by working simultaneously at the local, national and global levels, undertaking comparative analysis across sites and levels, and disseminating information at each level. This has allowed CIFOR to influence policies and practices in specific countries, while producing international public goods. To ensure that projects are relevant and meet stakeholders' needs, most have advisory committees. These projects have been most active in: Bolivia, Brazil, Cameroon, China, India, Indonesia, Malawi, Mozambique, Nepal, Nicaragua, Peru, Philippines, Tanzania, Vietnam, Zambia and Zimbabwe.

The following sections cover only a fraction of the projects and their achievements and are by no means exhaustive. The order in which the projects are presented is somewhat arbitrary, although an attempt has been made to start with projects focused on macro-level issues and then move to projects that emphasised more-local issues.

Causes of deforestation

CIFOR and its partners studied causes of deforestation in Bolivia, Brazil, Cameroon, Ecuador, Gabon, Ghana, Indonesia, Malawi, Mozambique, Papua New Guinea, Tanzania, Venezuela and Zimbabwe, *inter alia*. This work paid particular attention to the role of macro-economic, agricultural and transportation policies in land-use change, as well as of demographic factors and technological change in agriculture. Subsequently, it focused more on the effects of deforestation on rural livelihoods. Developing-country partners included: the Research Center on Labor and Agrarian Development (CEDLA) in Bolivia, the Environmental Research Institute for the Amazon (IPAM) and the Institute for Applied Economic Research (IPEA) in Brazil, the University of Yaounde in Cameroon, the University of Malawi, World Conservation Union (IUCN) and Eduardo Mondlane University in Mozambique, Sokoine University of Agriculture (SUA) in Tanzania, and the South African Alliance for Indigenous Resources (SAFIRE) in Zimbabwe. Several other CGIAR centres, including the International Center for Tropical Agriculture (CIAT), World Agroforestry Center (ICRAF), International Food Policy Research Institute (IFPRI) and International Livestock Research Institute (ILRI), participated in the work on the effects of technological change in agriculture on deforestation.

Many of the main achievements were made at the global level and are discussed in later sections. National-level outcomes included the following:

- A CIFOR report on how Brazilian beef exports fuelled Amazonian deforestation received major press coverage in the Brazilian and international press.¹ The report generated over 150 news stories, and at least as many web pages picked it up. This was the first study to focus on the role of beef exports in deforestation and how the devaluation of the Brazilian currency and the eradication of Foot and Mouth Disease had promoted beef exports. Since then, these topics have featured highly in many policy and media discussions about deforestation in the Amazon. The report was so controversial within Brazil that the Minister of Agriculture and a former Minister of Agriculture released official statements about it, which were widely reported by the press.
- CIFOR hosted regional workshops in Tanzania and Zimbabwe that brought together representatives from various organisations to discuss the management of the Miombo woodlands and the causes of forest loss. Around 80 key policy makers and opinion leaders concerned with forestry issues received policy briefs summarising major research results and their policy implications.
- Directors and senior staff from the forestry, agriculture, wildlife and central planning departments analysed likely future scenarios for the Miombo woodlands in Malawi and Mozambique using models developed by CIFOR and its partners.

Criteria and indicators of sustainable forest management (C&I)

Criteria and indicators are useful tools to help different stakeholders agree on how to manage and use forests and how to treat the people that live and work there. They also facilitate the monitoring of progress towards achieving these goals. They have been used to set standards for forest certification, by government regulatory systems, and to establish baselines for project evaluations.

CIFOR began work on C&I in 1994 and conducted fieldwork in seven countries in 1995 and 1996. The first significant written outputs were produced in 1996. However, major dissemination efforts did not get underway until 1998. Many of the main international C&I processes and certification bodies were represented in the CIFOR C&I project's International Project Advisory Panel and technical Scientific Support Group. This helped to ensure the research's relevance and disseminate its results. Among the partners involved in CIFOR's C&I projects were the African Timber Organisation (ATO), Forest Stewardship Council (FSC), Lembaga Ekolabel Indonesia (LEI), Société Générale de Surveillance (SGS), Smartwood, Woodmark and World Wide Fund for Nature (WWF).

Most practitioners involved in developing, adapting and utilising C&I are familiar with the materials that CIFOR created to support those efforts, and a large proportion use them. These materials include the 'C&I Toolbox', the Criteria and Indicators Modification

¹ While there had been much research in the past focusing on the role of livestock in deforestation in the Brazilian Amazon, none of it had focused on the role of beef exports, which are a relatively new phenomenon.

and Adaptation Tool (CIMAT) software, and materials on C&I for community forest management and forest plantations. These tools were designed to assist national working groups, international agencies and forest certification groups, *inter alia*. The Toolbox was produced in English, Chinese, French, Indonesian, Portuguese and Spanish. The community forest C&I materials are available in English, French, Portuguese and Indonesian. Over 1000 copies of the English-language Toolbox were distributed.

The three main contributions made by CIFOR's work on C&I were: 1) to help legitimise the C&I approach that was emerging among key stakeholders; 2) to focus the attention of those working on C&I on social issues and biodiversity and improve the C&I they used to assess these aspects; and 3) to provide a practical framework and advice that policy makers and practitioners could use to produce their own sets of C&I.

The influence of CIFOR's work on C&I on global and regional processes is discussed in a later section. Specific national-level results include the following:

- Argentina, Chile, Costa Rica, Guyana, Honduras, Nicaragua, Papua New Guinea and Peru: National working groups developing forest management standards relied extensively on CIFOR research.
- Brazil: The FSC National Working Group for Brazil used the results from CIFOR's test of C&I in Brazil when they developed the FSC's national standards for Brazil. Imaflo, one of Brazil's main NGOs involved in certification, drew heavily on CIFOR's work. CIFOR's C&I research formed the basis for a revision of the Brazilian Environmental Institute (IBAMA)'s guidelines for Para. Groups in Acre used CIFOR's C&I tools.
- Cameroon: CIFOR contributed to a workshop that finalised Cameroon's C&I, which the ministers in charge of forestry, wildlife and environment then formally approved. Previously, CIFOR's work had influenced efforts by the National Office of Forest Development (ONADEF) and the FSC certification working groups. CIFOR informed several projects funded by the International Tropical Timber Organisation (ITTO) and helped many professionals learn about C&I.
- Côte d'Ivoire: CIFOR introduced the concept of C&I to the country. National policy makers and scientists continue to pursue the issue.
- Guatemala: The FSC national standards for Guatemala are based mostly on the work of a forester who used and adapted CIFOR's C&I methodology. The Government of Guatemala requires community forestry concessions in the Peten to achieve FSC certification under these standards within three years of obtaining their concessions.
- India: The influence of CIFOR's work at the national level in the states of Kerala and Madhya Pradesh has been widely acknowledged.
- Indonesia: CIFOR's research influenced the C&I used by LEI, particularly as regards social issues and biodiversity. LEI is the main Indonesian organisation involved in forest certification. CIFOR trained regional government officials, at the request of the Ministry of Forestry, and 60 district officials.

- Namibia: CIFOR scientists helped shape the C&I development process.
- South Africa: South Africans working on C&I use CIFOR's CIMAT software and have taken CIFOR's advice in developing their own C&I. South Africa's C&I will be used as the basis for new forestry regulations.
- Projects in China, Colombia, Costa Rica, Guatemala, Honduras, Mexico, Peru and Vietnam used CIFOR's C&I materials.
- The Regional Community Forestry Training Center (RECOFTC) based in Thailand incorporated the materials into its training courses.

CIFOR's research on C&I also had significant impacts in developed countries. As a result of CIFOR's C&I test in Austria, new legislation was introduced on forest certification. The C&I test in Boise, Idaho, in the USA, led to the creation of a 3-year programme to implement C&I at the Forest Management Unit-level in selected locations. CIFOR's work on C&I informed the work of the Canadian Council of Forest Ministers and several provincial governments, and the Haliburton Model Forest adopted CIFOR's approach. Some participants in the C&I tests in Austria, Germany and the USA went on to heavily influence policies related to C&I in those countries and incorporated results from CIFOR's work in their recommendations.

Forest Finance and Pulp and Paper

One of CIFOR's most high profile research endeavours has been its work on forest finance and pulp and paper. This work began in the aftermath of the 1997 Asian financial crisis and has focused predominantly on Indonesia and China, although it has expanded beyond that. Among the main partners involved have been the Indonesian Ministry of Forestry (MOF), Indonesian Financial Intelligence Unit (PPATK), Indonesian Working Group on Forest Finance (IWGFF), WWF Indonesia, Chinese Center for Agricultural Policy (CCAP), Chinese Academy of Forestry (CAF), Forest Trends, the European Forestry Institute (EFI) and Centre de Cooperation internationale en recherche agronomique pour le développement (CIRAD).

Over the last 15 years, Indonesia has gone from being a minor pulp and paper producer to become one of the 10 largest producers, exporting pulp, paper and paperboard to the value of more than US\$ 2.5 billion yearly (a figure roughly equal to the entire forestry exports of Sub-Saharan Africa.) Natural forests were used to produce most of this, resulting in over 1 million ha of deforestation. At present, roughly 40 per cent of Indonesia's wood consumption is used for pulp and paper. To finance the expansion, four large companies borrowed more than US\$ 15 billion in international capital markets. Later they stopped repaying their loans: this ultimately cost the Government of Indonesia several billion dollars. There have also been widespread conflicts between the companies and communities over land rights.

CIFOR's research made international agencies, policy makers, financial institutions, NGOs and the public aware that Indonesia's pulp and paper companies lacked a sufficient legal and sustainable supply of wood and intended to continue using wood

from natural forests as their main source of raw materials. It also helped inform them that inappropriate debt restructuring policies would be costly for the government and lead to substantial forest destruction. The research led Export Credit Agencies and private banks involved in debt renegotiation to consider issues regarding the source of raw materials. It led foreign companies who buy pulp and paper to pressure the Indonesian companies to improve their environmental and social performance, and in some cases to stop purchasing the products.

Largely as a result of CIFOR's research and the independent processes it inspired:

- Numerous seminars and meetings organised by the Government of Indonesia, international agencies and NGOs addressed the problems of forest-sector debt and the supply of raw materials to the pulp and paper industry, and often referred to CIFOR's research in their discussions.
- The World Bank and other members of the Donor Forum on Forests (DFF) took up the issue in their policy dialogues with the Government of Indonesia, and the DFF itself used CIFOR's research as the basis for an official policy paper on industrial restructuring and forest debt.
- The Government of Indonesia formally committed itself to closing heavily indebted wood industries under the control of the Indonesia Bank Restructuring Agency (IBRA) and to linking proposed debt write-off to capacity reduction.
- An Indonesian Working Group on Forest Finance (IWGFF) was established, involving various Indonesian NGOs. It met regularly for several years and organised events and activities.
- The Multilateral Investment Guarantee Agency (MIGA) decided not to provide political risk insurance for a proposed US\$ 1 billion pulp mill in South Kalimantan. This probably delayed the mill's construction and may stop it entirely.
- Creditors in the pulp and paper sector have taken more informed decisions about the sector. Articles based on CIFOR's research in the *Asian Wall Street Journal*, *Asia Financial Review*, *Bisnis Indonesia*, *Bloomberg Wire*, *Christian Science Monitor*, *Corporate Social Responsibility Newswire*, *Dow Jones Wire*, *Fiber & Pulp Industry*, *Financial Times*, *Indonesia Observer*, *Jakarta Post*, *Guardian* and *Paperloop* contributed to this, as did direct communication with banks and financial managers. (In 2001 a CIFOR scientist won the CGIAR's annual communications award for this work.) The financial consultants, Smith Solomon Barney, quoted extensively from CIFOR's research in a report for investors about Indonesia's largest pulp and paper company, Asia Pulp and Paper (APP).
- Friends of the Earth, the Rainforest Alliance and WWF relied heavily on CIFOR's research in high profile campaigns in the UK, the USA, Japan and other countries against the use of natural forests to make pulp in Indonesia. This led the companies, International Paper (IP), Staples and Office Depot, to announce that they would not purchase Indonesian pulp. Ricoh announced that it would follow suit if APP did not improve its environmental performance. The Indonesian Forum for Environment (WALHI) used CIFOR's research as the

basis for its campaign against the destruction of natural forests by pulp and paper companies.

- Human Rights Watch used CIFOR's research in its investigation of human rights violations by APP.
- These combined pressures led APP to contract an independent environmental and social audit of its activities. They were also key in persuading the company to sign a Letter of Intent with WWF in 2003 committing it to use only wood from legal sources that were not high conservation value forests and to collaborate on other sustainability and conservation issues.² APP also: 1) launched a 'Sustainability Action Plan', committing it to rely fully on 'renewable plantation-grown fiber from socially, environmentally, and legally responsible sources' by 2007; 2) set aside a conservation area of 165 000 ha in Tesso Nilo, Riau Province, Sumatra, and donated US\$ 7 million to manage it; 3) contracted SmartWood to conduct a biodiversity assessment and to monitor the conservation of 120 000 ha of high conservation value forest within APP concessions, and 4) created a pilot community relations programme in Duri, Riau Province. APP's creditors forced the company to sign an environmental covenant as part of its master debt restructuring agreements, in which APP agreed to 'regularly pre-assess and investigate possible wood sources' to ensure that they do not include unsustainable old-growth, high conservation value forest.
- Under pressure from environmental organisations in Scandinavia, the UPM-Kymene company encouraged its business partner, APRIL, Indonesia's second largest pulp and paper company, to improve its environmental record.
- APRIL issued its first sustainability report in 2004, addressing issues of reforestation, community development and illegal logging. In 2002, APRIL hired an independent auditor to look into allegations that it was purchasing wood from illegal sources. The auditor identified problems and APRIL agreed to address them. APRIL pledged its commitment to 'full sustainability' by 2009. APRIL also declared its support for the Tesso Nilo protected area.

It remains uncertain whether Indonesia's pulp and paper companies will meet the commitments they have made. Ultimately, however, CIFOR's research and the processes resulting from it are likely to lead to greater reliance by the pulp and paper industry on wood produced in well-managed plantations, rather than from natural forests, as well as to fewer social conflicts between the industry and communities; they will also make it more difficult for forestry companies to take out loans and not repay them.

One significant by-product of CIFOR's work on forest debt in Indonesia was its research on money laundering. This is a potentially powerful tool for persuading banks and other financial institutions to monitor the actions of the companies they finance more closely. A CIFOR scientist introduced the idea of using money laundering legislation to control forestry crimes. Working with officials from the PPATK and the national legislature, he

² However, WWF pulled out the following year, alleging that APP had not kept its promises.

succeeded in having forestry crimes classified as one of the sets of offences explicitly included under the country's money laundering law, making Indonesia the first country to do this. This effort received major press coverage, which helped to legitimise the idea. *Bisnis Indonesia*, *Global Bisnis Radio*, *Jakarta Post*, *Jawa Post*, *Kompas*, *Koran Tempo*, *Metro TV*, *Pos Kota*, *Pos Metro Balikpapan*, *Suara Pembaruan* and *Tempo* all ran stories. As a result of these efforts, the Ministry of Forestry and the PPATK signed a Memorandum of Understanding (MOU) and the PPATK wrote to all of Indonesia's banks informing them of their obligation to report suspicious transactions linked to illegal forestry activities. CIFOR assisted the School of Accounting of the University of Indonesia to organise a national seminar on the role of accountants in detecting and reporting money laundering practices in natural resource-based industries. There were also global and regional outcomes, discussed in a later section.

CIFOR's work on forest debt and pulp and paper in Indonesia fed directly into related research in China, as it became clear that China was experiencing many similar problems, involving some of the same companies. The Chinese can learn a great deal from Indonesia's experience. CIFOR and its partners have informed high-level Chinese officials in the State Forest Administration (SFA), national planning agencies and provincial governments about this experience and helped them to assess the prospects for meeting China's growing needs for pulp and paper from local plantations (most of which are managed by extremely small producers).

Research by CIFOR and its partners also helped increase public awareness of the environmental impacts of China's rapidly growing imports of pulp and paper on neighbouring countries. This, in turn, made Chinese officials more aware of the problem and the need to address it. Articles about the work by CIFOR and its partners on this topic appeared in the *Far Eastern Economic Review*, *Jakarta Post*, *Nature*, *Newsweek* and *TIME Magazine*, *inter alia*.

Non-timber forest products (NTFPs)

NTFPs are vitally important both as subsistence goods and sources of income for hundreds of millions of poor rural people. Women, in particular, are heavily involved in their harvesting, processing and trading. CIFOR's efforts have focused mostly on finding ways to increase cash incomes from NTFPs and to manage forests that produce NTFPs more sustainably. The centre recognises that these two objectives sometimes conflict, and has sought to identify and develop tools to assess and address such trade-offs. Research in this area has consisted of national studies in Brazil, Cameroon, China, Indonesia and Peru, as well as a 61-case global comparison of marketed NTFPs involving researchers and data from 27 different countries. Researchers from dozens of institutions have been involved in these efforts. Within the CGIAR, ICRAF has been an important partner.

The main outputs of the global case comparison were published too recently to have achieved major impact. Relevant achievements at the national level of CIFOR's NTFP work include the following:

- CIFOR and the CAF disseminated information about their bamboo research to Chinese decision makers through Chinese-language publications and workshops with participants from county-level, provincial and national agencies. At the local level, the county governments and forestry bureaus in Anji, Pinjiang and Mochuan responded to the CIFOR and CAF research results by encouraging more bamboo plantations, developing new products and ecotourism based on bamboo, and taking steps to reduce pollution linked to bamboo processing. To integrate the bamboo work into a larger framework, CIFOR, the CAF, SFA, Chinese Academy of Social Sciences (CASS) and Chinese Academy of Agricultural Sciences (CAAS) organised a national symposium on policy reforms affecting forests. This stimulated high-level policy discussions and greater interaction among the Chinese sponsoring organisations, which normally do not interact a great deal.
- Research by CIFOR and Institute of People and Environment (IMAZON) greatly increased the profile of NTFPs in the Brazilian Amazon. This work involved over 90, mostly Brazilian, researchers. The Institute for Tropical Forestry (IFT), the main institution responsible for training foresters in the region, used CIFOR's book on useful plants of the Amazon to develop a training component. In addition the Federal Rural Literacy Initiative is using the book to help villagers learn to read, while improving their negotiation and forest management skills. By the end of 2004, over 1000 literacy trainers had been instructed in how to use the book in order to reach an initial target of 14 000 adults. CIFOR's work on the local value of biodiversity has been incorporated into the educational curriculum in municipalities throughout the state of Para. The Bosque Rodrigues Alves in Belem has featured the results in its Botanical Garden, visited by 200 000 people each year. *National Geographic*, *New Scientist*, the magazine of TAM airlines, *O Liberal*, *Diario do Para* and several radio and television stations ran stories about the work. The Federal Ministries of Environment, Health, Culture and Education, and state agencies for culture, education, environment and forests in Amazonas and Para have strongly supported the work.
- Brazil's Minister of Environment wrote the prologue for CIFOR's book on useful plants of the Amazon. The Democratic Republic of Congo (DRC)'s Minister of Environment wrote the prologue for a CIFOR book on NTFPs in Africa.
- CIFOR researchers regularly provide information on markets, prices and effective business strategies to traders in Cameroon who buy and sell NTFPs, most of whom are women. Preliminary results from a 2003 survey of 72 NTFP traders who received marketing information from CIFOR found that 81 per cent believed that the information had helped to increase their incomes. CIFOR's NTFP market information in Cameroon has also provided major inputs into the planning of ICRAF's tree domestication activities, which involve some of the same species.

- Research into the negative impacts of Indonesia's rattan policies by CIFOR and the Forest Research and Development Agency (FORDA), the Center for Social Forestry (CSF), EU-FORRESASIA, the Deutsche Gesellschaft für Technische Zusammenarbeit – Sustainable Forestry Management Project (GTZ-SFMP) and the Natural Resources Management Program of the US Agency for International Development (USAID/NRMP) raised the profile of this issue. The outputs and resulting dialogues influenced policy reforms, including increases in the levels of raw rattan exports permitted by the Ministry of Industry and Trade.
- CIFOR's research in NTFPs served to highlight the important roles of women in forests, particularly in Africa and South America, and made others take notice of women's work and incomes.
- CIFOR and FORDA research raised awareness in the Ministry of Forestry that existing policies were contributing to the rapid decline of sandalwood trees in East Nusa Tenggara. The work led the province's regional forestry research centre to prioritise research on sandalwood issues.
- Research on a medicinal plant, *Una de Gato*, led to the reconsideration of proposed policy changes that would have affected the exploitation of this plant.
- A major research project on marketed NTFPs in Bolivia and Mexico built directly on CIFOR's global comparison of marketed NTFPs.
- Two Mexican institutions, CECADESU and PROCYMAF, printed and distributed 10 000 copies of a CIFOR book on marketed NTFPs.

Adaptive collaborative management (ACM)

CIFOR began undertaking research on ACM in 1998, as a way to fine-tune existing methods to promote community forest management, and help ensure poor rural families obtain greater benefits from forest resources. By 2002, this research involved 90 researchers, mostly from partner organisations, operating in 30 sites across 11 countries.

The participatory research method that the ACM project used required actively catalysing collective action, collaboration among stakeholders and social learning, while simultaneously studying the process. The results were then compared across sites and disseminated to a wider audience. The most readily identifiable local impacts after only a few years of interventions involved improved capacity to address governance issues and social learning, although there are also early signs of livelihood and environmental impacts. The team made special efforts to include women, ethnic minorities and other traditionally marginalised groups, and gender was explicitly addressed in most ACM sites.

Local stakeholders learned skills and methods for participatory planning and monitoring, resource mapping, ensuring transparent accounting, making presentations and negotiating, and legal literacy. This sometimes led to greater trust and less conflict between communities, companies and government agencies. A number of cases also

ACM Developing-Country Partner Institutions

Bolivia: Bolivia Sustainable Forest Management project (BOLFOR);

Brazil: Center for Amazonian Workers (CTA), Brazilian Agricultural Research Corporation (EMBRAPA), Federation of Organisations for Social Assistance and Education (FASE), Museo Emilio Goeldi, Group for Research and Extension on Agroforestry Systems in the State of Acre (Pesacre), and University of Florida,

Cameroon: Campo Man National Park Project, Centre de Cooperation internationale en recherche agronomique pour le développement (CIRAD), Federation of Rural Organisations for the Cameroonian Economy (FORCE), World Agroforestry Center (ICRAF), International Institute of Tropical Agriculture (IITA), Institute for Agronomic Research for Development (IRAD), Land and Development Association (ATD), Ministry of Environment and Forestry (MINEF), Tropenbos, National Office of Forest Development (ONADEF), and SNV;

Ghana: Forest Research Institute of Ghana (FORIG) and University of Kumasi;

Indonesia: Gita Buana, PADI Foundation, Pusat Studi Hukum dan Otonomi Daerah (PSHK-ODA), Riak Bumi, Conservation Information Forum (WARSI), World Wide Fund for Nature (WWF);

Kyrgyzstan: Kyrgyz – Swiss Forestry Sector Support Program (KIRFOR);

Madagascar: Ranomafano National Park project, University of Antananarivo;

Malawi: Forest Research Institute of Malawi (FRIM) and Mzuzu University,

Nepal: Leasehold Forestry Project (NUKCFP), Ministry of Forestry and Soil Conservation (MoFSC), New Era, Natural and Organisational Resource Management Services (NORMS), UK Community Forestry Project;

Philippines: Budyong Rural Development Foundation, Department of Environment and Natural Resources (DENR), Xavier University

Zimbabwe: Forestry Commission

saw a notable rise in participation in community organisations and multi-stakeholder processes. In a number of cases, resource mapping helped reaffirm communities' tenure rights. Rural women in particular notably improved their self-confidence, negotiating skills and capacity to participate in collective action in many sites.

ACM research with community forest user groups (CFUGs) in the Sankhuwasabha District of Nepal led to more regular committee and general assembly meetings, greater attention to transparency and accountability in CFUG management, a new system of representation based on 'toles' (hamlets) in the CFUG, and use of CFUG funds for social development activities. Local and district-level stakeholders, such as the Federation of Community Forestry Users (FECOFUN) and the Department of Forestry now collaborate more, and there is less intra-group conflict.

Among the livelihood-related impacts found in the various countries are:

- new plantations and silvicultural operations and the construction of check dams in Kaski District, Nepal;
- funding for a rattan and tree crop project in Pasir, Indonesia; several families selling rattan baskets and furniture in Pasir;
- FSC certification of a small-scale timber harvesting project and local maintenance of a road in Porto Diaz, Brazil;
- creation of honey and mushroom-collecting user groups (the latter composed mostly of women) in 10 villages near the Chimaliro Forest Reserve in Malawi;
- establishment of 4 action groups with about 60 members in Basac, Philippines that, among other things, planted medicinal plants and sold cut flowers;
- a cooperative in Palawan, Philippines, persuaded the government to reduce the fees on harvested timber;
- villagers near the Mafungautsi Forest Reserve in Zimbabwe created user groups for thatch grass, broom grass and honey and developed a new kind of broom, which was harvested more sustainably and fetched a higher price;
- the District Council of Chivi in Zimbabwe turned over some responsibilities for natural resource management to local villagers;
- oil companies involved in the Chad–Cameroon pipeline project used the results from CIFOR research to determine how much to compensate farmers for forest products that the pipeline will destroy;
- the villages of Ntonya, Malawi, improved their marketing of eucalyptus poles; several communities in Madagascar made management plans;
- the number of women involved in community forest management increased notably in Nepal and Zimbabwe.

Several communities won national awards resulting from their participation in the ACM project. The Forest User Group in Bamdibhir, Nepal, progressed from being of only average standard in 2000 to receiving first prize from the Forest Department out of 39 groups in Kaski District. A second ACM community, Andheribhajana, received second prize out of 200 villages.

The work has also been ‘scaled-up’. The Department of Environment and Natural Resources (DENR) of the Philippines incorporated ACM findings into its guidelines on community forest management. Several districts in Nepal institutionalised the use of ACM methods, and the Natural Resource Management Sector Assistance Programme (NARMSAP) project there applied the self-monitoring approach developed by CIFOR in its own sites. The Forestry Commission of Zimbabwe incorporated ACM methodologies into its forestry extension work in seven districts and CIFOR staff trained provincial forestry extension managers and Forestry Commission managers there in ACM. Indian government officials in the state of Madhya Pradesh applied for funding grants to test ACM within a Joint Forest Management (JFM) context.

Decentralisation of Forest Management

CIFOR, together with around 30 non-CIFOR scientists from various institutions, studied the decentralisation of forest management in about a dozen countries in Latin America, Asia and Africa to find ways to make these processes more pro-poor, democratic and environmentally friendly. This research highlighted the importance of municipal and district governments in forestry matters, strengthened local governments' activities, and oriented government policies and donor projects. It also fed into global and regional efforts, such as global events and publications coordinated by the World Resources Institute (WRI), and regional publications and events focusing on Latin America. Achievements in specific countries include the following:

- CIFOR and its partners studied the effect of decentralisation on forests and livelihoods in 14 districts in Indonesia and disseminated the results widely. Five policy briefs provided specific guidance to national and regional policy makers, and a national workshop informed policy makers and donors about the research results. A stakeholder network created by the project in Bulungan District, East Kalimantan, secured independent funding from the US Agency for International Development (USAID) to continue meeting and advocating for policy reform. The project provided technical assistance on district laws and regulations to three district governments in South Sulawesi, Papua and Jambi, at their request. A video based on the research in West Papua was shown to wide acclaim at the Jakarta International Film Festival and was selected by the National Geographic Society to be exhibited at the 2004 World Conservation Congress. Research in Jambi, Indonesia, has helped to bring the gender dimension into discussions about forests and decentralisation.
- In Bolivia, research by CIFOR, CEDLA, TIERRA and the Bolivia Sustainable Forest Management Project (BOLFOR) helped improve municipal forest management in the lowlands. This research covered about a dozen municipalities. CIFOR and its partners held regional and municipal workshops to inform municipal governments and forest-related agencies about the state of municipal forest management and how to improve it. Both the Forest Superintendent's Office and BOLFOR followed recommendations by CIFOR and its partners in designing their efforts to strengthen municipal forest management.
- The success of CIFOR's 'future scenarios' exercises in several municipalities in the Department of Pando has led other municipal governments to formally request similar exercises. Three Bolivian NGOs adopted CIFOR's future scenarios methods for their own work in the Department of Santa Cruz.
- The Integrated Environmental Management Project (PGAI) of the State Government of Para in Brazil requested, financed and hosted a workshop involving representatives of government agencies and donors to discuss how to improve their support for municipal environmental management, in light of findings by CIFOR's partners. Multi-stakeholder workshops in Brasilia and eight municipalities of Acre and Para discussed the implications for forest management of case studies by CIFOR and partners.
- Research, dissemination and advisory activities by CIFOR and the Nitlapan Institute in Nicaragua helped convince the Government of Nicaragua to

give municipal governments a higher profile in the forestry law adopted in 2003. In addition, municipal governments and other agencies in over a dozen municipalities received detailed diagnoses of the natural resource problems in their municipality, with specific recommendations. Most of these diagnoses were presented at municipal workshops. Two study tours and two national workshops involving participants from a variety of public and private organisations sensitised decision makers about issues concerning municipal forest management. As noted previously, the research provided inputs to several World Bank projects. Nicaragua's National Forestry Institute (INAFOR) used the results to help design its strategy for working with municipal governments. Nitlapan prepared and distributed a book on decentralisation and forest management in Nicaragua, and a CIFOR keynote presentation at a national forestry congress increased awareness about the importance of municipal governments.

- Mexico's Ministry of Environment (SEMARNAT) and National Forestry Commission (CONAFOR) organised a workshop in 2002 to discuss the role of state and municipal governments in forest management, as an input for preparing a new forestry law. Some 160 people attended, including the Minister of Environment, congressional deputies and their staff, mayors and representatives of national and state government agencies dealing with forests, and from the private sector, farmer organisations and NGOs. Half the event was devoted to presentations and discussion of CIFOR's research on decentralisation of forest management. The discussions contributed to the government's decision to give state and municipal governments greater rights and responsibilities in the forestry law, passed shortly afterwards.
- Large numbers of mayors, forestry officials, NGO and donor representatives and community leaders attended national workshops organised to present the decentralisation studies in Guatemala and Honduras.
- South Africa's national guidelines for Community-based Natural Resource Management approved by the Department of Environmental Affairs and Tourism drew heavily on the conclusions of studies on local institutions that formed part of CIFOR's Miombo Woodlands project.

Secondary forests and forest rehabilitation

CIFOR worked in about a dozen countries to demonstrate the importance of secondary forests as a resource and to improve forest rehabilitation efforts. Results included the following:

- Eighteen private companies and public institutions from eight countries financed most of their own participation in an international network on site management and productivity of industrial tropical plantations that CIFOR coordinates. Several large companies adopted practices to improve the long-term soil fertility of their forest plantations based on results from the network's research. For example, the Brazilian companies involved stopped burning residues, de-bark in the field, and use minimum cultivation techniques in

about 75 per cent of their harvested area. The Kerala Forest Development Corporation and Hindustan Newsprint Ltd. in India improved their weed management, added nutrients and used better quality planting stock in their planting programmes. Several plantation companies in South Africa now use a 'Nutritional Sustainability Index' to assess the nutritional sustainability of specific practices. The Nanping Forestry Committee in China stopped slash burning in all state forest farms. A company in South Sumatra in Indonesia started retaining its harvest residues on site and changed its fertilisation practices, while another company in Riau began to de-bark in the field. The Government of Indonesia also banned the burning of logging debris in plantation sites as a result of the research. The Brazilian consortium linked

CIFOR Partners in Research on Secondary Forests and Forest Rehabilitation

Australia: Commonwealth Scientific and Industrial Research Organisation (CSIRO), Department of Primary Industries (Queensland)

Brazil: Brazilian Agricultural Research Corporation (EMBRAPA), Environmental Research Institute for the Amazon (IPAM), Museo Parensis Emilio Goeldi, Suzano de Papel e Celulosa, University of Sao Paulo (USP), Federal Agricultural University of Para (UFRA)

China: Chinese Academy of Forestry (CAF), Fujian Forestry College, State Forest Administration

Costa Rica: Tropical Agronomy Center for Research and Education (CATIE)

India: Kerala Forestry Research Institute

Indonesia: Forest Research and Development Agency (FORDA), Gadjah Mada University, Inhutani II, PT Musi Hutan Persada, PT Riau Andulan Pulp and Paper (RAPP)

Nicaragua: Central American University (UCA)

Peru: Instituto Nacional de Investigación Agraria (INIA), World Agroforestry Center (ICRAF), La Molina University

Philippines: University of the Philippines Los Baños (UPLB)

Republic of Congo: Centre de Cooperation internationale en recherche agronomique pour le développement (CIRAD), UR2PI

South Africa: Institute for Commercial Forestry Research

USA: US Department of Agriculture Forestry Service

Vietnam: Forest Science Institute of Vietnam (FSIV), Tropenbos International

to this network now includes 10 large forestry companies, a university, and a forest research institute and has organised two large symposia and three technical workshops.

- Regional workshops in Latin America, Africa and Asia increased awareness among national forestry officials about the potential of secondary forests as a source of forest products and environmental services.
- CIFOR was instrumental in gaining recognition of the importance of secondary forest management in Peru's recent forestry law, and was involved in preparing regulations concerning secondary forests in the new law.
- A dozen workshops in Brazil, China, Indonesia, Peru, Philippines and Vietnam disseminated the results from CIFOR's research on forest rehabilitation and offered an opportunity for key stakeholders to share experiences.
- Two large Indonesian companies recruited forest pathologists and initiated research on tree plantation diseases based on the results of research coordinated by CIFOR.

Adoption of sustainable management practices in natural forests

CIFOR focused initially on Reduced Impact Logging (RIL), but later expanded to sustainable management practices more generally.

- CIFOR led a process that generated new official guidelines for forest management plans in timber concessions in Peru, and published two manuals on forest management aimed at operators, technical staff and professionals.
- A presentation of CIFOR's research results to the National Forestry Council (Concertación Forestal Nacional) made Peruvian policy makers aware that most small-scale loggers would be unable to adapt to the management approaches promoted in the new forestry law.
- CIFOR conducted 16 training courses in Peru focusing on forest management and business management for over 200 forestry professionals, technicians, operators and concessionaires, together with National Institute for Natural Resources and the Environment (INRENA) and FODEBOSQUE.
- The Brazilian Agricultural Research Corporation (EMBRAPA), Fundação Floresta Tropical (FFT) and CIFOR developed forest management tools to improve planning, implementation and monitoring of commercial-scale forest management operations in the Brazilian Amazon. The RIL guidelines produced have been used in training courses for forest managers and operators. The two large partner forestry companies involved in this research improved their management, adopted RIL and obtained certification.
- An Indonesian-language manual about RIL published by CIFOR has been used extensively in training of forestry operators and managers in Indonesia. WWF is currently translating it into Vietnamese for use in training events in Vietnam.
- The Ministry of Environment (MMA), CIFOR, AMAZON and EMBRAPA jointly sponsored a national workshop on managing public forests in 2004, with some 350 participants. The workshop served as one of the major public consultations in the preparation of a new law focused on the management of public forests,

which Brazil's president has sent to Congress for debate and approval. CIFOR was one of only a handful of institutions that the Brazilian Congress invited to testify before it about the content of that proposed law.

- Based on the conclusions of a workshop on mahogany organised by CIFOR, the University of Quintana Roo, and an organisation of community forestry enterprises (OEPFZM), Quintana Roo's Technical Forestry Advisory Council (CTCFQR) agreed to create a forestry research commission, develop a state forestry plan, and change the forest management guidelines. The State Governor chairs the council, which includes representatives of the main government agencies, producer organisations, NGOs and universities concerned with forestry. The workshop itself presented research results on how to promote mahogany regeneration to 55 representatives of government, community enterprises and research organisations.

Creating mechanisms for national policy debates

In a number of countries CIFOR organised national or regional policy forums that brought together participants from the key stakeholder groups to discuss a range of policy issues related to forests. These have often been linked to one or more of the multi-country research projects but covered various topics. Examples include the following:

- The Forestry Commission of Zimbabwe, the Institute of Environmental Studies (IES), and CIFOR hosted an 'Inter-institutional Forum on Policy Research Relevant to Forests', which brought together representatives of 15 agencies to discuss the policy implications of research on the Miombo woodlands by CIFOR and its partners.
- Three widely attended multi-stakeholder fora in Cameroon discussed the results of CIFOR's research on criteria and indicators, structural adjustment and macro-economic crisis, the 1994 Forestry Law, markets for NTFPs, peri-urban fuelwood dynamics, and the interaction between local communities, logging companies and the government.
- CIFOR sponsored or co-sponsored numerous events about policy issues in La Paz, Santa Cruz and Riberalta Bolivia with the Forest Superintendent's office, BOLFOR and the Amazonian Sustainable Forest Management Project (PROMAB).
- CIFOR has held a series of lunchtime presentations on different aspects of its research for officials of the Ministry of Forestry of Indonesia.

B. The Malinau Research Forest (MRF) in Indonesia

CIFOR's Host Country Agreement with the Government of Indonesia stipulates that CIFOR will use a forest in the Malinau District of East Kalimantan as a living laboratory for long-term research, since when CIFOR has been involved in a wide range of research in Malinau. This work has served as one of the principal foci for developing CIFOR's approach to Integrated Natural Resource Management (INRM). The major partners involved have included FORDA, the District Government of Malinau, Indonesian Institute

of Sciences (LIPI), Institut de Recherche pour le Développement (IRD), the INHUTANI II forestry company, University of Mulawarman, Bioma NGO, and WWF Indonesia.

The Malinau Research Forest has produced many global public goods, in the form of research publications, tools and methods that have been widely disseminated. Like many forest frontier areas, huge inequities and great incentives to destroy forest resources make Malinau a difficult place in which to achieve rapid impacts. Nevertheless, a decade of work there has generated notable achievements:

- Based on CIFOR's research in Malinau and previous CIRAD research in Berau, Indonesia's Ministry of Forestry instructed all forestry concessions to limit harvesting to eight trees per hectare and to follow a set of RIL guidelines that CIFOR produced. With CIFOR's support, the Tropical Forest Foundation (TFF) trained several hundred employees of timber companies, NGOs and government agencies in RIL.
- CIFOR's support for the efforts of Malinau to have itself declared a 'conservation district' contributed to the decisions of Indonesia's Ministers of Forestry and the Environment to visit Malinau and participate in a workshop attended by over 300 people to discuss the possibilities of having Malinau officially recognised as a conservation district and what that might entail.
- CIFOR scientists helped the district governments of Malinau and West Kutai improve their capacity to plan by providing them with spatial data and training them in the use of GIS techniques. Both district governments are now carrying out poverty mapping thanks to a CIFOR project. (CIFOR also assisted municipal governments in Bolpebra and El Sena in Pando, Bolivia, with poverty mapping.)
- CIFOR scientists disseminated their research on community use of biodiversity in Malinau widely throughout the district through presentations, posters and playing cards. A total of about 1000 sets of four posters were distributed to local communities, NGOs, local governments and other stakeholders. CIFOR scientists surveyed a group of 51 individuals before and after their exposure to the posters about their knowledge of local biodiversity and their attitudes to it. They found that the posters significantly improved the respondents' knowledge and led them to express more environmentalist sentiments. The education departments in Malinau and Tarakan have agreed to incorporate these materials into the districts' teaching curricula.
- WWF used CIFOR data from Malinau, showing that most of the soils are not suitable for oil palm, in its lobbying efforts and press campaign to convince the Government of Indonesia not to establish large oil palm plantations along the Indonesia–Malaysia border.
- After 5 years of facilitation efforts in 27 villages, the CIFOR team successfully turned over facilitation entirely to the communities. Three villagers facilitated an agreement among the 27 villages to organise a new institution for joint decision making.
- Based on IRD–CIFOR research on the links between health and nutrition and forest dependence of the Punan people in Malinau, Medicines du Monde, an

international NGO, has begun a new health programme to meet their specific needs. This research also improved the understanding of local government health workers of the specific health needs of the Punan communities and helped to increase the presence of health workers in those communities.

- The CSF incorporated the results of their research with CIFOR in Malinau and other districts into their farmer extension activities.
- In a community meeting in 2003, 52 representatives from around Malinau evaluated CIFOR. The majority of responses were positive. The communities pointed to CIFOR's role in providing advice and information, resolving conflicts among villagers, and improving communications between villagers and the district government.
- Research by CIFOR showing the importance wild pigs to the livelihoods of the Dayaks of East Kalimantan helped stimulate the creation of a regional research network focusing on wild pigs.
- The village of Setulang won the prestigious Kalpataru award for their efforts to conserve a local forest to protect their water supply, with CIFOR's support.
- The work in Malinau has informed CIFOR's approach to INRM. This, in turn, significantly influenced the methods used by other CGIAR centres and national research institutions and the Convention of Biodiversity (CBD)'s discussions about its ecosystem approach.

C. Building research capacity in developing countries

Forestry research in developing countries is generally weaker than agricultural research, and receives fewer resources. Forest-related social science and policy research is particularly weak. Developing-country researchers often lack experience with methods such as regression, simulation and programming models, spatial analysis, case studies, participatory action research, participant observation, and sampling and surveying techniques; most have few opportunities to develop their writing and publication skills. A large proportion of them lack the opportunities, resources and technical backstopping they need to conduct high quality research; they have limited experience with gender analysis and integrated approaches. Partly as a result, developed-country scientists dominate the academic literature related to tropical forests.

CIFOR has contributed to improving this situation: hundreds of developing-country researchers have participated in CIFOR research projects. The centre has provided many with methodological tools, technical backstopping, training, reference materials and funds: this has allowed them to improve their skills, access information, produce more and disseminate their results. It has permitted some researchers to start publishing in the international literature and participate in international fora, and some have gone on to occupy leadership positions, partly as a result of their collaboration with CIFOR. Work by CIFOR, the Food and Agriculture Organisation of the United Nations (FAO), Forestry Research Network for Sub-Saharan Africa (FORNESSA) and a number of individual African scientists on forest research capacity in Africa highlighted the need for greater investment in capacity building. CIFOR assisted the DRC, Vietnam and other countries in

setting forestry research priorities, helped to organise several national forestry research congresses in Bolivia, and helped the Wondo Genet College of Forestry in Ethiopia to redesign parts of its curriculum and teaching approaches.

CIFOR's training activities have concentrated on research methods and writing skills. These activities have included short courses and seminars, supervision of graduate student thesis research, and in-service training. CIFOR has sponsored or co-sponsored dozens of workshops and seminars on policy and biophysics in relation to tropical forests. These seminars generally feature specific new findings from research by CIFOR and its partners, and constitute a key source of information for researchers who participate. In 2003, CIFOR sponsored a total of 54 training activities of one type or another, with 1427 participants.

Since 1993, 54 doctoral students, 87 Master's students and 71 other students from developing countries, almost 40 per cent of whom were women, have carried out thesis research and internships with support from CIFOR. In some cases this involved financial support for their research as well as technical guidance. The overwhelming majority of this support has been given since 1998. CIFOR helped to assist 116 students, 46 per cent of whom were women, from developed countries.

CIFOR initiatives that have focused mostly on capacity building include:

- the Makokou Project in Gabon, which funds graduate research by young Central African scientists;
- the Poverty–Environment Network, which provides methodological support for PhD students using household data to look at the links between forests and poverty;
- the Leadership in Forest Reform Project, which allowed young Indonesian professionals and students to undertake supervised research on forest tenure and decentralisation; and
- the management of a fund to support thesis research by Indonesian graduate students.

CIFOR's Miombo Woodlands project also had a strong capacity-building element. About 30 professors and graduate students from the universities of Malawi, Mozambique, Tanzania and Zimbabwe were heavily involved in this project and participated in project workshops.

CIFOR scientists formed part of both the steering committee and technical committee of the African Forest Research Network (AFORNET). Since 1998 AFORNET has awarded grants to over 100 African junior scientists.

CIFOR has worked with gender researchers in Scandinavia, Tanzania, Australia, Indonesia and the USA to strengthen networking among women foresters and women researchers. It has also contributed to three formal networks concerned with forestry

and gender issues (WOCAN, Knock on Wood, and the International Union of Forestry Research Organizations (IUOFRO) working group on gender and forests).

CIFOR has worked with dozens of developing-country research institutions in recent years. Many of these partnerships were limited and/or short-lived. However, there are some 30 institutions with which CIFOR collaborated over several years and whose capacity CIFOR can legitimately claim to have helped strengthen. These include:

- **Belize:** Programme for Belize
- **Bolivia:** BOLFOR, CEDLA, the Institute for People, the Environment and Ecology (IPHAE), and PROMAB
- **Brazil:** EMBRAPA, (IMAZON), Group for Research and Extension in Agroforestry Systems in Acre (PESACRE), IPAM, Federal Agricultural University of Para (UFRA)
- **Cameroon:** IRAD
- **China:** CAF, Forestry Economics and Development Research Center (FEDRC); CCAP
- **Costa Rica:** Tropical Agronomy Center for Research and Education (CATIE)
- **Gabon:** Research Institute of Tropical Ecology (IRET)
- **India:** Ashoka Trust for Research on Ecology and the Environment (ATREE)
- **Indonesia:** Bioma, Bogor Agricultural Institute (IPB), FORDA, Gadjra Mada University (UGM), Hasanuddin University, Lembaga Alam Tropika Indonesia (LATIN), Center for the Study of Law and Regional Autonomy (PSHK-ODA), University of Mulawarman, University of Papua, University of Tanjungpura and the PADI Foundation
- **Malawi:** Forest Research Institute of Malawi (FRIM), University of Malawi
- **Malaysia:** University Putra Malaysia (UPM)
- **Mozambique:** Eduardo Mondlane University
- **Nepal:** New Era, Forest Action
- **Nicaragua:** Nitlapan Institute
- **Peru:** Agricultural University of La Molina, National Institute for Agricultural Research (INIA), National Institute for Natural Resources and the Environment (INRENA), Peruvian Amazon Research Institute (IIAP)
- **Philippines:** University of Philippines Los Baños (UPLB), Xavier University
- **Tanzania:** Sokoine University of Agriculture (SUA)
- **Thailand:** Regional Community Forestry Training Center (RECOFTC)
- **Vietnam:** Forest Science Institute of Vietnam (FSIV)
- **Zambia:** Copperbelt University
- **Zimbabwe:** University of Zimbabwe, Forestry Commission

CIFOR sponsored international networks of predominantly developing-country researchers concerned with site management and productivity in tropical plantations, ACM, forest rehabilitation, marketed NTFPs, and the management of the Miombo woodlands. These networks each involve between 30 and 90 researchers, and have provided them with the opportunity to exchange information and experiences, and to compare research results drawn from diverse contexts.

CIFOR's capacity-building efforts are also indirectly reflected in its funding for developing-country research institutions and scientists. Between 1998 and 2005, CIFOR made 137 grants to developing-country research institutions for a total of over US\$ 5 million, as well as 27 individual grants totalling US\$ 75 000³. During this period, CIFOR also worked with approximately 400 individual researchers through the modality of consulting contracts; of these, approximately two-thirds were from developing countries. All of these grants and consulting contracts reflect joint research projects between CIFOR and the institutions and individuals involved.

What Do CIFOR's Partners Say?

In 2003, CIFOR sent electronic questionnaires to a sample of its current and former partners asking about their experiences working with CIFOR. The questionnaires were sent to 247 individuals, of whom 200 responded. Of the respondents, 159 were from 29 different developing countries. The survey found that:

- Over one-third of the respondents (36 per cent) worked in universities. About one-quarter worked for other research institutions, 21 per cent for NGOs, and 7 per cent for other government agencies. The remaining 10 per cent were consultants or worked for other institutions.
- On average, respondents had been collaborating with CIFOR for 3–5 years.
- Fifty four per cent of respondents reported that working with CIFOR benefited them because it helped them to reach a wider audience. Eighty four per cent had produced some joint publication with CIFOR scientists and 32 per cent had presented their research results at a major forestry event.
- Almost half the respondents reported that their collaborative research efforts had already led to tangible outcomes. Of these, three-quarters said that the research had influenced national policies or decision makers in donor institutions and one-quarter mentioned that the research had led to similar projects being carried out in other locations.
- Thirty per cent of respondents reported that they were fully involved in the research process from initial design to final dissemination, while 38 per cent said they were partially involved. The remaining 32 per cent said they were only occasionally or never involved in making decisions and actively communicating about the research.
- Some 70 per cent of developing-country partners mentioned CIFOR's high credibility as one of the main reasons why they wanted to work with the centre.
- More than half of respondents reported that networking with other partners was a major benefit of working with CIFOR.
- Over three-fifths of the partners reported that the partnership had benefited both them and CIFOR equally.

³ This does not include a group of some two dozen young Central African researchers who received funding for thesis research through a trust fund that CIFOR managed, which was not formally part of CIFOR's budget.

IV. Influencing Global Actors

A. Influencing large global actors

Large global actors are very influential: by changing the way these agencies think and behave, the Center for International Forestry Research (CIFOR) has leveraged its resources. In some cases CIFOR has put new topics on their agendas or convinced them to give topics more attention. In other instances CIFOR has dispelled myths or highlighted inappropriate policies and wasteful investments. CIFOR has provided guidelines and examples of best practices, and helped to identify, design and evaluate projects. It has also worked to improve the quality of these agencies' policy dialogues with specific governments. By communicating its research results through the agencies' most prominent and widely disseminated publications CIFOR has been able both to influence the agencies' own staff and to reach much larger audiences.

Indicators of CIFOR's influence over these actors include: references to CIFOR research in their publications, events or public statements; their provision of funds to CIFOR to provide them with information, tools, methods and advice for their own use; and the involvement of CIFOR staff in advisory bodies, staff training, and formulating and evaluating investment projects.

Multilateral agencies and inter-governmental processes

A handful of multilateral agencies and intergovernmental processes play major roles in shaping national and subnational policies, programmes and projects related to tropical forests, as well as thinking about forests generally. These include: the World Bank, the Food and Agriculture Organisation of the United Nations (FAO), the Convention on Biological Diversity (CBD), the Global Environment Facility (GEF), the United Nations Framework Convention on Climate Change (UNFCCC), the International Tropical Timber Organisation (ITTO), and the United Nations Forum on Forests (UNFF). One can trace many global forestry trends to these agencies and processes, and they produce a high proportion of the publications that inform policy debates. Their influence comes from funding projects, advising governments, promoting public awareness, disseminating technical information and training professionals.

CIFOR has successfully sought to influence these institutions and processes. The centre works with each agency and process individually, as well as with the Collaborate Partnership on Forests (CPF), to which they all belong. The following sections highlight some of CIFOR's main achievements in each case:

World Bank

It is hard to overstate the World Bank's importance when it comes to tropical forests. Between 1992 and 1999, the Bank lent US\$ 3.5 billion for forest-related activities, and its non-forestry lending and policy dialogues impacted forests and livelihoods

tremendously. When CIFOR surveyed policy experts in 1999 about which publications had most influenced forest policy debates during the previous two decades, one-eighth of those mentioned most frequently were Bank publications and one third of respondents mentioned at least one Bank publication.

Topics in which CIFOR research influenced the Bank's thinking include: the impact of non-forestry policies and investments on forests, the role of forests in rural livelihoods, forest finance, forest law enforcement, and decentralisation of forest management.

- CIFOR helped shape the World Bank's 2002 *Forest Strategy and Policy*, its most important forest-related policy documents since 1991. The strategy cites CIFOR's research 11 times. The Operation Evaluation Department's (OED) review of Bank forestry activities, which was a key input to the strategy, relied heavily on CIFOR publications and discussions with CIFOR scientists. The review's synthesis volume and case studies cite CIFOR publications 39 times. Thanks to CIFOR, the Bank paid more attention to how its non-forestry lending and policy dialogues affect forests and forest-dependent people. The Bank funded CIFOR to prepare a background paper on this issue, and CIFOR staff made formal presentations at consultation meetings and served on the strategy's Technical Advisory Group (TAG). A CIFOR staff member participates in the External Advisory Group (EAG) that reviews the implementation of the strategy.
- CIFOR's work on the strategy and its subsequent research on how mineral and petroleum export booms affect deforestation contributed to the World Bank's 2004 decision to strengthen the environmental safeguards for policy-based lending. (The World Bank's Environment Director wrote the preface to a book presenting CIFOR's research results on oil and mineral export booms and deforestation.) The Bank policy document that discusses how to implement best practices when applying forest-related safeguards to policy-based lending cites CIFOR's research 16 times.
- The 2003 *World Development Report* (WDR) devoted to sustainable development cites CIFOR publications four times. The WDR is the Bank's most high-profile annual publication.
- CIFOR, the World Bank and other partners prepared a forest sector review for the Democratic Republic of Congo (DRC), which served as the basis for policy dialogues and development cooperation priorities there. CIFOR had primary responsibility for rural livelihood issues.
- The World Bank organised four national and regional consultation meetings to discuss a CIFOR paper on forests and forestry in Indonesia, and used the paper and discussions to draft its own policy paper to use in policy dialogues with the Indonesian administration that took office in 2004.
- CIFOR scientists were involved in producing high profile World Bank publications about: deforestation in the Brazilian Amazon, the environmental impact of the Asian financial crisis, biodiversity conservation in managed forests, and sustainable rural development. These publications also heavily cite CIFOR's research. The Government of Brazil used the deforestation study

to design its national programme to combat deforestation, announced by the president in 2004. CIFOR scientists authored two of the few forest-related articles published in the *World Bank Research Observer* (WBRO).

- CIFOR contributed directly to World Bank loan projects. CIFOR scientists participated in international advisory groups for the World Bank forestry project in Nicaragua (Program on Forestry - PROFOR) and the PPG7 Pilot Program for the Brazilian Rainforest. Input from a CIFOR scientist about the PROFOR project's efforts to support forestry activities by indigenous people led the project to modify those efforts and co-sponsor a review of previous forestry experiences involving indigenous people in the country. CIFOR scientists helped Nicaragua's Municipal Development Institute (INIFOM) improve its work on forestry activities financed by the Bank's Rural Municipalities (PROTIERRA) project. The Bank also used CIFOR's research results on municipal forest management to help design the natural resources component of PROTIERRA's US\$ 41 million second phase. CIFOR assisted the World Bank Rural Areas Administration Project (PAAR) in Honduras on the same topic. CIFOR evaluated the impact in Oaxaca of the World Bank community forestry project in Mexico (PROCYMAF), and the Government of Mexico and the Bank used the results as inputs to formulate the project's greatly expanded US\$ 29 million second phase. CIFOR helped the World Bank and the State Government of Jharkhand in India to improve their capacity to monitor the livelihood impacts of forestry projects there. CIFOR scientists are using the results from their research on the demand and supply of Chinese wood products to help the World Bank design an approximately US\$ 100 million forest plantation project in Quangxi.
- Findings from CIFOR research on forest devolution in India influenced the World Bank's thinking about its Joint Forest Management (JFM) projects there. Several CIFOR partners were invited to a small brainstorming session with senior Bank personnel. These discussions resulted in a proposed second phase of the Bank JFM project in Madhya Pradesh being put on hold.
- Based on research by CIFOR and the Sokoine University of Agriculture (SUA), the Ministry of Finance of Tanzania prepared a Poverty Reduction Strategy Paper (PRSP) for the World Bank that acknowledged the high level of dependency of the poorest households on forest products and committed the government to taking this explicitly into account in its future Medium Term Expenditure Framework and poverty reduction strategies.
- CIFOR's research on the World Bank's use of conditionality to influence forestry policies in Cameroon and Indonesia generated discussion inside the Bank and elsewhere and contributed to a shift away from the use of conditionality in Bank forestry activities. It did this both directly and by providing substantial input into a high-profile WRI publication on the topic.
- CIFOR worked closely with PROFOR, the most prominent forest-related trust fund in the Bank, on the impact of forest law enforcement on rural livelihoods, forests and poverty, forests and violent conflict, and forest finance.
- CIFOR made high-profile presentations at two regional Ministerial Meetings on Forest Law Enforcement and Governance in Asia and Africa that the Bank

helped organise. CIFOR's research on forests and conflict, funded by the Bank, influenced the content of the African ministerial statement. The World Bank's draft forestry strategy for Asia heavily cites CIFOR's research on the use of money-laundering legislation to curb illegal forestry activities.

- A workshop organised by the World Bank, US Agency for International Development (USAID), and CIFOR provided the Bank with insights into why previous forest reform efforts in Latin America largely failed.

Food and Agricultural Organisation of the United Nations (FAO)

The FAO is the second most prominent global actor concerned with forests. In the previously mentioned survey on which publications influenced policy debates, one third of respondents mentioned at least one FAO publication, and FAO produced 9 per cent of the most frequently mentioned publications. Governments regularly request the FAO to help them to formulate forestry laws and policies. FAO disseminates its publications widely in multiple languages; in many developing countries they are practically the only technical materials to which forestry professionals have access. The FAO also funds and implements field projects .

CIFOR has sought both to inform the FAO and take advantage of its communications channels, and has been involved in most major FAO publications and events related to tropical forests since 1997. By publishing its results in FAO publications, CIFOR has been able to reach large numbers of forestry professionals. CIFOR informed FAO thinking on: the links between forests and poverty, forests and violent conflict, criteria and indicators of sustainable forest management (C&I), municipal forest management, forest research capacity, carbon sequestration projects, reduced impact logging (RIL), outgrower schemes, forest rehabilitation, secondary forests, forests and flooding, and NTFPs, *inter alia*.

- CIFOR provided substantial input into FAO's high-profile *State of the World's Forest* (SOFO) reports, published in English, Spanish, French, Chinese and Arabic. CIFOR scientists wrote the chapter on forests and poverty for the 2003 SOFO and the chapter on forests and violent conflict for the 2005 SOFO, and presented them at FAO's Committee on Forestry (COFO) meetings, attended by delegations from over 100 countries, including many ministers and heads of forestry departments. *Le Monde*, *Liberation*, *Voice of America*, *AP*, *AFP*, *EFE* and a number of other news media published reports about the chapter on forests and violent conflict, and FAO's Director General, Jacques Douff, highlighted the chapter when he introduced Nobel Prize Winner, Wangari Mathai, at the COFO. CIFOR's influence on the SOFO has grown steadily. The SOFO first cited CIFOR publications in 1999. CIFOR scientists wrote a full SOFO chapter for the first time in 2003 and joined the SOFO advisory board for the first time in 2005. The number of CIFOR citations rose from 2 in 1999 to 6 in 2001 and 9 in 2003.
- CIFOR had a high profile in the 2004 World Forestry Congress organised by the FAO and Canada. Five individuals associated with CIFOR gave keynote presentations, and the centre co-sponsored six side events. Forty per cent of

the Congress's 30 most prominent papers on global or tropical forestry issues that included references cited CIFOR research.

- The FAO *Forestry Outlook Study* cited CIFOR research four times and CIFOR scientists contributed to FAO's *Latin America Outlook Study*, currently being prepared. (The *Asia Outlook Study* was published in 1997, prior to the period covered in this report; it also used CIFOR materials.)
- CIFOR scientists co-authored FAO's *Model Code of Forestry Harvesting Practices for Asia – Pacific*. The FAO Regional Office for Asia published four working papers by CIFOR scientists on RIL and six other working papers that heavily referenced CIFOR research.
- Between 1998 and 2003, CIFOR scientists published 10 articles in *Unasylva*, the FAO's widely-disseminated forestry journal; 18 other *Unasylva* articles cited CIFOR publications.
- A CIFOR staff member served on the Steering Committee of the National Forest Program (NFP) facility housed at FAO. During that time the facility financed projects to support national forest programmes in 36 countries.
- FAO and CIFOR joined forces to assess and strengthen the capacity of African and Asian forestry research institutions through diagnostic surveys, workshops and joint training events. The European Commission (EC) used the data collected on forestry research capacity in Africa to justify investing more in forestry research in that region. Vietnam used the outputs from a joint CIFOR–FAO national workshop on forest research priorities to help prepare a multi-agency Forest Sector Support Programme there.
- A CIFOR staff member chaired a 'High-Level Panel of External Experts on Forestry', created by the Director General of FAO to advise FAO on how its forestry activities could help to achieve the Millennium Development Goals (MDGs) and what FAO should do to support global forestry processes.
- CIFOR and FAO jointly organised international workshops on forest rehabilitation in Asia, secondary forests in Africa, outgrower schemes, forestry definitions, and barriers to the application of forestry research results. Various FAO events on Criteria & Indicators of Sustainable Forest Management (C&I) highlighted CIFOR's contributions.
- CIFOR prepared documents for an FAO international workshop on 'the role of forests in poverty alleviation'. The workshop led to two new programmes related to forests and poverty being incorporated into FAO's *Medium-Term Plan 2006-11*.
- CIFOR and FAO developed a shared research agenda on Land Use, Land Use Change, and Forestry (LULUCF) and the Clean Development Mechanism (CDM).
- Over 5000 people downloaded a joint FAO/CIFOR publication, '*Commercialization of Non-Timber Forest Products*', from CIFOR's web page.

Convention on Biological Diversity (CBD) and the Global Environment Facility (GEF)

The CBD is the main intergovernmental policy process related to forest biodiversity. The GEF finances activities that derive from the CBD's decisions. As of mid 2003, the GEF had committed US\$ 777 million to 150 forest-related projects. CIFOR's efforts to influence the CBD and GEF have focused on increasing the attention paid to biodiversity in production forests and to the sustainable use of non-timber forest products (NTFPs). Examples include:

- In 2003, the CBD Secretariat contracted CIFOR to undertake a review of the 'ecosystem approach', the convention's primary framework for action. The Secretariat then held a workshop and an electronic consultation with the focal points of the CBD's Scientific Body on Scientific, Technical, and Technological Advice (SBSTTA) to discuss the results. The subsequent SBSTTA meeting and the Convention of the Parties (COP) discussed the conclusions of these exercises. About one-fifth of the revisions to the text on the ecosystem approach that the COP approved came from the CIFOR review.
- The CBD's Expanded Program of Work on Forest Biological Diversity, which the COP approved in 2002, drew heavily on the work of the CBD's Ad Hoc Technical Expert Group on Forest Biological Diversity (AHTEG), in which CIFOR heavily participated. The Program of Work guides the forest biodiversity efforts of member states and is the CBD's most important policy document related to forests. The AHTEG itself was established based on a paper that CIFOR prepared for the CBD Secretariat, which the CBD's Executive Secretary presented at the 5th meeting of the CBD's SBSTTA.
- The paper that CIFOR prepared for the 5th SBSTTA meeting recommended that the CBD address problems related to forest fires and harvesting of NTFPs. In response, the SBSTTA and COP requested that CIFOR prepare documents on those topics. The CBD published the documents and CIFOR gave a keynote address about NTFPs and bushmeat to the 6th SBSTTA meeting. This resulted in recommendations for COP 6 on forest fires and bushmeat that were later incorporated into the CBD's Expanded Programme of Work on Forest Biological Diversity. A CIFOR scientist co-chairs the AHTEG committee on implementing the programme of work.
- Of the nine technical reports published by the CBD Secretariat to date, CIFOR scientists authored or co-authored four. A fifth report cited a number of CIFOR publications.
- CIFOR scientists participated in side events at COP 7 on 'payment for environmental services' and 'how to implement the ecosystem approach'.
- CIFOR played a key role in promoting GEF investments in production forests and other non-protected areas. Many GEF fora discussed a CIFOR paper on biological conservation in production forests prepared for the GEF Secretariat. CIFOR also produced materials for the GEF – United Nations Development Programme (UNDP) – United Nations Environment Programme (UNEP) Biodiversity Planning Support Programme to guide efforts to integrate biodiversity concerns into forestry sector planning processes. Partly as a result,

in 2002 the GEF Council adopted ‘Mainstreaming Biodiversity Conservation in Production Systems’ as one of four strategic priorities for its biodiversity activities to be supported with funds from its third replenishment.

- CIFOR persuaded the GEF to concentrate more on the policy context (‘enabling environment’) for biodiversity conservation. The GEF used the report from a joint GEF-CIFOR workshop on this topic as a central reference in one of its internal retreats.
- The GEF’s highest profile document, *The Challenge of Sustainability*, cites several CIFOR publications. Similarly, the GEF noted that CIFOR’s website and a GEF roundtable involving CIFOR were two of the main sources of information for the only GEF publication describing its work on forests.

United Nations Framework Convention on Climate Change (UNFCCC)

- CIFOR contributed to the Inter-Governmental Panel on Climate Change’s main report on LULUCF.
- CIFOR’s research showed that putting limits on the extent to which countries could use CDM forestry activities to meet their emissions reduction requirements would have little practical effect; this helped climate change negotiators reach agreement on this crucial issue.
- Decisions by COP 7 to simplify baselines and monitoring for small-scale projects and include human-induced natural regeneration in its definition of reforestation and afforestation were influenced by research by CIFOR and its partners that recommended these actions.
- CIFOR and Forest Trends highlighted the potential importance of small-scale forestry CDM projects for livelihoods leading up to COP 8 in 2002. This led to stories in *AFP*, *BBC World*, *Business Standard*, *Business World*, *Dagens Nyheter*, *International Herald Tribune*, *Kyodo News Service*, *Nature*, *Press Trust of India*, *UN Wire Service* and *UPI*. This was followed up by a well-attended side-event at the COP. Forest Trends followed up by creating a ‘Forest Carbon Alliance’, which lobbied aggressively for small-scale forestry CDM projects at COP 9. The UNFCCC Secretariat also organised an expert meeting on small-scale afforestation and reforestation CDM projects, in which a CIFOR scientist participated. These efforts contributed to the subsequent decision at COP 10 to permit small-scale CDM projects with simplified monitoring and verification requirements.

International Tropical Timber Organisation (ITTO)

Most governments from major tropical timber exporting and importing countries belong to the ITTO. Developing-country governments participate quite actively in the ITTO Council. The ITTO has funded forestry projects to the value of US\$ 250 million, and sponsors or co-sponsors many courses and workshops attended by developing-country forestry professionals. CIFOR has taken advantage of ITTO events and publications to disseminate its research results and influence the ITTO project portfolio, and has implemented ITTO projects.

- A CIFOR scientist co-authored the ITTO’s guidelines for managing secondary and degraded forests, and CIFOR co-organised regional workshops designed

to discuss and disseminate the guidelines. These guidelines serve as the basis for orienting ITTO funding for projects related to secondary and degraded forests, *inter alia*.

- Research by CIFOR and its partners significantly contributed to developing the ITTO's C&I. ITTO used CIFOR's work in events on the topic.
- ITTO and a number of ITTO projects incorporated the results from CIFOR's research on RIL in many of their materials and training events.
- ITTO sent a high-level mission to Indonesia to review the main problems in the country's forestry sector, at the government's request. The mission used CIFOR's research extensively and cited CIFOR publications seven times in its report.
- A CIFOR staff member serves on the ITTO's Committee on Reforestation and Sustainable Forest Management, responsible for reviewing most ITTO projects.
- Since 1998, CIFOR scientists have published seven articles in ITTO's widely disseminated *Tropical Forest Up-date*. Other articles cited CIFOR research.
- CIFOR and its partners have implemented ITTO projects in Indonesia, Brazil and Central Africa.

United Nations Forum on Forests (UNFF) and its Predecessors

Over the last decade, the UNFF and its predecessors have provided a major forum for the world's governments to reach consensus on forestry issues. Their annual meetings and country-led initiatives regularly brought together and promoted discussion between key decision makers and opinion leaders concerned with forests. The UNFF also catalysed the creation of the CPF. Within this context, CIFOR had quite a visible and influential presence.

- CIFOR was a key source of information for the UNFF about decentralisation of forest management. It provided much of the technical content for a high-level UNFF conference on this issue in Interlaken, Switzerland, co-sponsored by the Governments of Switzerland and Indonesia, and key officials from these countries reported on the results to the UNFF. The World Bank translated one CIFOR paper presented at the conference into Russian and focused on it during a high-level workshop of Russian policy makers on forests and decentralisation.
- Each annual UNFF meeting discusses several substantive themes, agreed on by member governments. The key inputs into those discussions are 'Secretary General's reports', prepared by CPF members and the UNFF Secretariat. CIFOR prepared a paper on the 'Social and Cultural Role of Forests', which was the main document on forests and poverty, and jointly produced a paper on 'Scientific Forest-Related Knowledge' with the International Union of Forestry Research Organizations (IUFRO) and the World Agroforestry Center (ICRAF). The UNFF co-sponsored CIFOR's international conference on forests and rural livelihoods.
- CIFOR championed the role of research within the predecessors of the UNFF. CIFOR and the Government of Indonesia organised a dialogue on 'Science, Forests, and Sustainability' and CIFOR and the Governments of Austria and

Indonesia, IUFRO and the FAO held an International Expert Consultation on Research and Information Systems for Forestry. Those events raised the profile of research.

- An international workshop on Financing Sustainable Forest Management organised by CIFOR and the Government of Norway was the main technical input to the UNFF's deliberations on financing.
- Research by CIFOR and its partners on C&I played a highly visible role during the Inter-Governmental Panel on Forests (IPF). The IPF formally recommended that member states take into account CIFOR's research results in developing C&I.
- CIFOR contributed to the Inter-Governmental Forum on Forest (IFF)'s work on the causes of deforestation. UNEP commissioned CIFOR to prepare the main paper on the topic and present it at a global forum, sponsored by UNEP, Non-governmental Organisations (NGOs) and the Government of Costa Rica. Leading up to that forum, CIFOR presented its results in several regional workshops.
- Based on CIFOR's research on forests and violent conflict, the UNFF Secretariat decided to hire a full-time senior consultant to work on forests, conflict resolution and peace building.
- CIFOR co-sponsored a Global Symposium on Gender and Forests with UNFF and IUFRO and gave high visibility presentations at UNFF country-led initiative workshops on planted forests and on capacity building, all of which made formal recommendations to the UNFF. CIFOR's report about fast-growing plantations presented at the UNFF workshop on planted forests received substantial publicity and was widely discussed among a number of key stakeholders involved in debates over plantations.

Other multilateral agencies and inter-governmental processes

Besides working with CPF members, CIFOR also sought to actively influence various other multilateral agencies and intergovernmental processes. These included the African Timber Organisation (ATO), Asian Development Bank (ADB), Asian Forest Partnership (AFP), Asian Pacific Group on Money Laundering (APG), EC, Inter-American Development Bank (IADB) and World Trade Organisation (WTO). Examples include the following:

- Within the EC, Forest Law Enforcement, Governance and Trade (FLEGT) has been the most prominent forest-related issue. CIFOR was responsible for having money laundering and financial due diligence put on the EC's FLEGT agenda. CIFOR was responsible for the topic at a key EC FLEGT workshop, and contributed most of the material on finance in the EC FLEGT Action Plan, approved in 2003. Based on that plan, the Government of Germany and the EU Presidency organised an EU expert workshop in 2004 on the use of money laundering legislation to combat forestry crimes. This workshop confirmed that existing money laundering legislation can provide an effective tool for combating forestry crimes, and several European governments are now actively following up on this. An EC official also gave a presentation about the

requirements related to financial due diligence and money laundering, based largely on CIFOR's work, to the European Export Credit Agencies.

- Research by CIFOR and the FAO on forest research capacity in Africa provided data that served to justify several large EC projects financing forestry research.
- A CIFOR scientist gave a presentation on money laundering and illegal logging at the annual meeting of the APG, the regional intergovernmental body concerned with the topic. This led to plans to create a regular working group focused on applying money laundering legislation to forestry crimes and to put information about money laundering related to forestry crimes on the APG website.
- Based on CIFOR's research, the US State Department held a special roundtable discussion on money laundering and illegal logging. The meeting was attended by representatives from the Council on Environmental Quality, the Justice and Treasury Departments, the Export-Import Bank, Citibank and the World Bank, *inter alia*. The event helped US government agencies recognise the potential of using money laundering legislation to reduce illegal logging. A CIFOR scientist also gave a presentation on money laundering to key individuals at Citibank. Separately, CIFOR's research convinced the US Embassy in Indonesia to recommend to the State Department in Washington that money laundering legislation be considered a key tool in efforts to reduce illegal forestry activities.
- CIFOR was actively involved in helping the ADB prepare a new forestry strategy, which is still under review. A CIFOR staff member gave the keynote address at the ADB workshop to discuss the strategy.
- The ADB, CIFOR and FAO are jointly implementing a project in the Mekong region designed to find ways to use community and industrial forestry to alleviate poverty, as an input to the ADB's lending and policy dialogue activities.
- CIFOR's research on the decentralisation of forest management in Central America was partially funded by the IADB, and provided major inputs into the bank's activities. CIFOR prepared a 'best practices' document on the topic for the IADB, which it is using to guide its natural resource projects. The results of the decentralisation research in Honduras fed directly into the formulation of a US\$ 30 million IADB project there (PROBOSQUE), which finances municipal forestry activities. The results also played a role in the design of the municipal activities of an earlier IADB watershed project.
- The IADB regional division covering Mexico and Central America held a meeting to discuss its lending for watershed management in Central America based on a CIFOR report on the topic.
- The IADB produced a book on forest policy in Latin America, which provides the conceptual basis for the bank's forestry activities. CIFOR was involved in the preparation of the book; it cites CIFOR publications six times.
- The Governments of Indonesia and Japan, CIFOR and The Nature Conservancy (TNC) launched the 'Asian Forest Partnership' (AFP) at the World Summit on

Sustainable Development (WSSD) in Johannesburg; the AFP focuses on illegal logging, forest rehabilitation and forest fires. The AFP hosted four major meetings in Indonesia and Japan that brought together many key players. Some three dozen governments, international agencies and NGOs now belong to the AFP. The AFP currently has around a dozen work plans, focusing on issues such as systems to verify the legal origins of timber and cooperation between customs agencies. CIFOR has served as the technical secretariat for the AFP, which provided an opportunity to disseminate its own research about the three key topics and to promote information exchange between the partners.

- Within the Consultative Group on International Agricultural Research (CGIAR), CIFOR led the Task Force on Integrated Natural Resource Management (INRM). This task force provided strong leadership in discussions about research on natural resources within the CGIAR. The INRM approach that CIFOR helped to develop was used as the basis for designing the CGIAR Challenge Programme on Livelihoods in Sub-Saharan Africa. This programme will influence how tens of millions of dollars of agricultural research funds are invested over the next few years. CIFOR has also been chosen to be one of the groups chosen to facilitate and monitor the Sub-Saharan Africa Challenge Program. Two CIFOR scientists received a CGIAR award for best journal article for a piece they published on INRM approaches.
- CIFOR has participated actively in the Alternatives to Slash and Burn (ASB) consortium led by ICRAF, and currently chairs the ASB Global Steering Committee. ASB recently received a very positive external evaluation.
- The ATO developed a set of C&I based on the results of CIFOR research on the topic in Cameroon, Cote d'Ivoire and Gabon. This and related research formed the basis for an ATO policy directive on sustainable forest management and certification.
- CIFOR had a high profile in the World Conference of IUFRO in Kuala Lumpur; IUFRO highlighted CIFOR's work on C&I in several workshops on the topic.
- The United Nations Education, Science, and Cultural Organisation (UNESCO), the Government of Indonesia and CIFOR co-sponsored a major international meeting to discuss how to use the World Heritage Convention to conserve biodiversity.
- A CIFOR staff member co-coordinated the Millennium Ecosystem Assessment's (MA) subregional assessments. Several other staff members contributed to MA reports. MA findings on forests and forestry draw heavily on CIFOR research.
- A CIFOR scientist formed part of the 'environment task force' of the Millennium Project coordinated by Jeffrey Sachs, and was the main author of the task force's recommendations. The project reported directly to Kofi Annan on how to achieve the MDGs. The report of the project's 'hunger task force' cites CIFOR publications three times.
- A paper on the effects of trade liberalisation on forests published by WRI with CIFOR participation heavily influenced the discussions on the question leading up to a WTO summit in Seattle.

Bilateral donors

Bilateral donors are also key players on the global forest scene, and CIFOR sought to influence them. CIFOR staff gave presentations and were involved in activities in which bilateral agency staff members were the main audience. Examples include:

- USAID, CIFOR the International Resources Group (IRG) and WRI jointly produced materials on 'emerging best practice for revitalising rural Africa' as part of an initiative on 'Nature, Wealth and Power' (NWP). These materials circulated widely within USAID. One USAID official reported they had influenced USAID programmes in Mali, Namibia, Senegal and Tanzania, as well as USAID strategies for agriculture and fragile states and the USAID initiative to end hunger in Africa. USAID honoured the work with a certificate, noting that it advanced the agency's 'understanding of the interactions among governance, markets and natural resource management' and influenced its strategies and programmes. NWP materials were also presented to high-level policy makers and other groups in Burkina Faso, Cameroon and Mali.
- CIFOR, the Woodrow Wilson International Center for Scholars and Adelphi Research produced three briefing papers on natural resources and conflict designed to raise awareness among USAID mission staff on the links between natural resources and conflict and assist USAID in its programme development related to that topic.
- USAID used a CIFOR study on deforestation in Gabon to brief USAID's Director (Administrator) before his visit there.
- A workshop on gender issues organised by CIFOR, USAID's BOLFOR project and the University of Florida led to the development of a formal BOLFOR policy on gender.
- USAID officially encouraged its environmental and agricultural staff to order CIFOR's book *Agricultural Technologies and Tropical Deforestation*, saying that it was highly relevant to their work and challenged many beliefs widely held within USAID. USAID also disseminated CIFOR's Criteria and Indicators Modification and Adaptation Tool (CIMAT) software to USAID offices in Africa and supported the translation of the C&I Toolbox into Spanish.
- The Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) implemented an international project on promoting the development of C&I based in part on the results of CIFOR's C&I work.
- CIFOR staff were involved in efforts within the Dutch, Finnish and Swedish development cooperation agencies to develop forestry assistance strategies.

Global Conservation and Development NGOs

Besides the major global intergovernmental agencies and processes, half a dozen large international NGOs also play a major role in tropical forest issues. These include Conservation International (CI), TNC, the Wildlife Conservation Society (WCS), World Conservation Union (IUCN), World Wide Fund for Nature (WWF), CARE and the Forest Stewardship Council (FSC). Influencing the thinking and operations of these key NGOs can have a very large impact on the ground. The combined revenues of CI, TNC and WWF

were US\$ 1.3 billion in 2002, of which almost US\$ 500 million was spent in developing countries. WWF has over 4000 staff members and works in over 90 countries.

CIFOR's work with these NGOs has steadily increased. CIFOR scientists have given numerous presentations to their staff and have implemented a number of joint activities. CIFOR's efforts have centred on trying to persuade the conservation NGOs to adopt more livelihoods-centred and adaptive management approaches and to pay more attention to the links between landscape-level activities and broader trends. This is reflected in the following examples.

- The FSC promoted the use of the 'Pathfinder' C&I Toolkit that CIFOR produced together with WWF, Pi Environmental Consulting, IKEA and FSC among all FSC national standard working groups.
- Smartwood, Société Générale de Surveillance (SGS) and Woodmark, the three certification companies operating under the FSC standards that have certified the largest area in the tropics, explicitly acknowledge having used CIFOR's work in developing their certification guidelines. In total, over 37.1 million ha of forest have been certified by companies that acknowledge some use of CIFOR's C&I research in their certification standards or audit process.
- WWF, IUCN, CIFOR and ICRAF prepared a proposal for a 'Rainforest Challenge Programme'. Joint efforts to prepare the proposal led to a common approach to integrating conservation and development in landscapes. The partners held a workshop to share experiences across sites and CIFOR helped WWF analyse its activities in sites in Cameroon and Indonesia.
- The last two *World Resources Reports* (2003 and 2005), produced jointly by WRI, the World Bank and UNDP, cited CIFOR's research heavily.
- CIFOR's research on oil palm expansion in Indonesia provided much of the information that WWF used in its campaigns on the conversion of forests to oil palm. This, in turn, helped lead ABN-AMRO, a major Dutch bank, to establish environmental and social guidelines for lending for the establishment of oil palm plantations. Other Dutch banks are considering adopting similar guidelines.
- CIFOR conducted a study on forestry employment in Riau Province for WWF, which drew heavily on the results in its successful effort to have portions of the 200 000 ha Tesso Nilo forest declared a protected area. CIFOR also developed the method for assessing plant biodiversity used in Tesso Nilo by WWF and others to identify the area as having extremely high plant biodiversity. This was one of the main justifications for establishing the protected area.
- Methodological tools for rapid plant biodiversity assessment developed by CIFOR and its partners have been recommended and/or used by WWF, CI, IUCN, The World Conservation Monitoring Centre (WCMC) / UNEP, CBD, FAO and GEF / UNDP. For example, WWF used the tools together with the Smithsonian Institution and the Man and the Biosphere Programme in Assam and Arunachal Pradesh in northeast India, and UNDP/GEF and a Brazilian NGO, Pronatura, used them to help develop a protected area management plan

in Juruena in northwest Mato Grosso. These tools focus on plant functional attributes and vegetation structural variables. Much of the initial work on the tools was carried out together with ICRAF, as part of CIFOR's contribution to the Alternatives to Slash and Burn (ASB) consortium.

- CIFOR participated in the Forest Landscape Restoration (FLR) initiative promoted by IUCN, WWF and others, and had a high profile in IUCN's 2004 World Conservation Congress.
- WWF, IUCN, Centre de Cooperation internationale en recherche agronomique pour le développement (CIRAD), CIFOR and the International Forestry Industry Association (IFIA) formed a steering committee to identify appropriate indicators for monitoring logging companies' compliance with their commitments to sustainable forest management in Central Africa.
- CIFOR's research on C&I significantly influenced the activities of the certifiers working with the FSC, who have certified 5.8 million ha of tropical forests. The FSC recommended CIFOR's C&I documents to its national C&I development working groups.
- CI adopted CIFOR's Multi-Disciplinary Landscape Assessment (MLA) approach in its work in Sumatra and West Papua and is considering adopting it more widely.
- CIFOR and WWF implemented a joint project on structural adjustment and forests in Indonesia, and CI drew heavily on the outputs in its work on the topic.
- A CIFOR scientist worked with CI on preparing land-use scenarios for West Papua; these were used in discussions with provincial and local authorities.
- CIFOR is responsible for the learning components of two TNC/WWF projects in Indonesia: one on forest certification and illegal logging and another on promoting sustainability in Asian timber markets, reducing conversion of forests to oil palm, and promoting good governance in several sites.
- CIFOR hosts the regional office of TNC for Asia and hosted IUCN and WWF's Project Firefight South East Asia. A CIFOR scientist forms part of the steering committee for a TNC conservation training centre.
- CARE has organised workshops on payment for environmental services together with CIFOR. CIFOR has worked jointly with CARE in several regions of DRC to diagnosis the institutional capacity of civil society organisations there.
- Several CIFOR staff members have served on the Board of the Tropical Forest Foundation (TFF), one of the main NGOs providing training in RIL, and CIFOR housed and provided administrative support for the TFF in Indonesia.

B. Influencing broad global audiences

The previous section focused on CIFOR's efforts to influence the several dozen main global organisations and processes concerned with tropical forests. This section looks at the efforts to disseminate CIFOR's research results to global forest and forestry audiences more generally. The main channels for this have been publications, the internet, workshops and conferences, and the mass media.

CIFOR prioritises putting its messages across to key decision makers in government, international agencies, NGOs, academia and the private sector. It has also sought to influence the curriculum and research priorities of the main graduate schools that focus on tropical forests.

Forest Policy Experts Listserve (POLEX)

POLEX has become one of the principal sources of information for policy makers, advisors, donors, NGOs, researchers and others concerned with forests around the world. Once or twice per month more than 16 500 individuals receive these snappy summaries of recent documents about forests in English, Spanish, French, Indonesian or Japanese. Since January 1998, CIFOR has sent out about 160 messages, approximately half of which are based on its own research.

In 2003 and 2004, CIFOR sent questionnaires to about half the individuals on the lists. Of these, 14 per cent (1166) responded. Eighty-eight per cent of respondents said they read all or most messages and 84 per cent forwarded them to others. This implies that more people receive POLEX messages forwarded by others than receive them directly from CIFOR. On average, each year subscribers request three full versions of the documents summarised on POLEX. The majority of subscribers save POLEX messages and refer back to them. Almost three-fifths usually find POLEX relevant for their work. One-third said that POLEX had improved their understanding, shaped their opinions and helped them stay informed of new policies and debates. Ten per cent said they had used POLEX messages directly in their work and 5 per cent reported that the information that POLEX provides had helped shape policies and make decisions. Respondents gave numerous examples of where they had used POLEX messages to design projects and policies, conduct advocacy campaigns, teach classes, write research reports and prepare funding proposals, *inter alia*. Over 30 newsletters and e-mail distribution lists regularly or occasionally reproduce the POLEX messages.

POLEX messages were appreciated for covering relevant subjects, their engaging style, being short and concise, and telling readers how to obtain further information. Many respondents said that it was a good way to stay up to date with current issues.

The fact that people with a positive opinion about POLEX were more likely to respond to the questionnaire probably biased these results. However, CIFOR also hired a consultant to conduct 42 telephone interviews with influential donors, policy makers and academics thought to be unlikely to respond to an electronic survey due to their heavy workloads. All of those telephoned agreed to be interviewed and 60 per cent of them said they read all or most POLEX messages.

Other indicators of the positive response to POLEX are that more than 400 individuals from over 50 countries have sent unsolicited messages complimenting the listserve. Among those sending such messages have been the Ministers of Environment of Colombia, Costa Rica, Gambia and Mexico, the Directors of Forestry of Guatemala

and Namibia, the Director of Brazil's National Forestry Program, the Director of Policy of the Papua New Guinea Forest Authority, the Permanent Secretary of the Ministry of Environment of Belize, the Facilitator of the Congo Basin Forest Partnership, the Assistant Administrator of USAID, the Heads of Forestry at the Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung, Germany (BMZ) and the Department for International Development (DFID, UK), the Head of Rural Development at the World Bank, the Deputy Director General of FAO, the Assistant to the President of the International Fund for Agricultural Development (IFAD), the Head of Natural Resources of the International Development Research Centre (IDRC), the Director of the CGIAR, the Executive Secretary of the Forestry Research Network for Sub-Saharan Africa (FORNESSA) and the Director of the French Institute of Biodiversity.

Publications

Between 1998 and the first part of 2005 CIFOR produced almost 1400 publications (see Table 1.) Of these, some 680 were refereed publications (see Table 2.)

Table 1. CIFOR Publications 1993-2005

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005 (mid)	TOTAL
Article	0	12	30	25	41	37	36	61	96	44	83	80	28	573
Book	2	6	10	39	34	35	27	52	48	30	51	49	30	413
Brochure	0	0	0	0	0	0	0	0	1	5	4	22	21	53
CD ROM	0	0	0	2	1	0	1	2	4	4	2	2	2	20
Chapter	0	7	22	41	36	57	33	18	87	65	77	48	18	509
Paper	0	2	5	2	11	8	8	3	2	4	7	4	10	66
Poster	0	0	0	0	0	1	7	15	0	2	12	0	0	37
Series	0	2	12	10	10	6	9	18	6	3	0	2	2	80
Software	0	0	0	0	0	0	0	0	0	0	1	1	0	2
TOTAL	2	29	79	119	133	144	121	169	244	157	236	207	111	1751

Table 2. CIFOR Refereed Publications 1998-2005

	1998	1999	2000	2001	2002	2003				2004				2005 (end Aug)				TOTAL
						Gen	Env	Gov	Liv	Gen	Env	Gov	Liv	Gen	Env	Gov	Liv	
Article	14	32	43	67	38	0	24	20	14	0	29	17	24	1	12	5	13	429
Book	1	0	1	3	4	3	7	13	5	2	6	3	4	0	5	5	5	68
Brochure	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
CD ROM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chapter	0	0	0	21	25	0	0	31	24	0	5	1	5	0	6	5	4	127
Paper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Poster	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Series	5	7	9	5	2	0	0	3	5	0	0	0	0	0	1	0	1	52
Software	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
TOTAL	20	39	53	96	69	3	33	68	48	2	40	21	33	1	24	15	23	680

The number of publications produced by CIFOR has fluctuated from year to year; however, the general trend has been upward. The following sections discuss specific aspects of the influence that these publications have had.

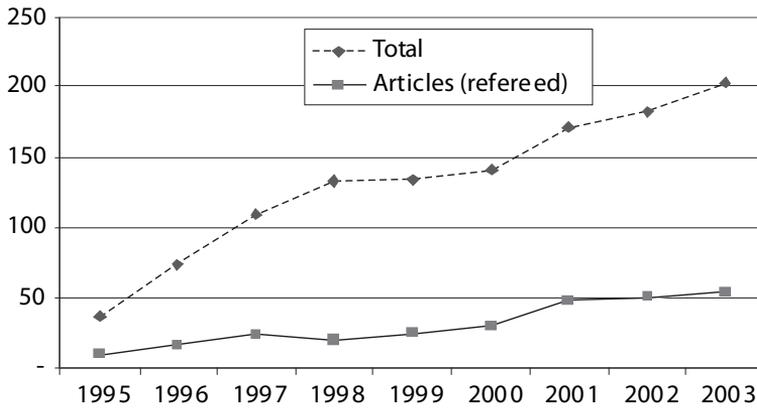


Figure 1. CIFOR Publications by Year (moving average for last three years)

According to the CGIAR 2004 performance indicators, CIFOR had the 2nd-highest number of peer-reviewed publications per scientist of any CGIAR centre: each CIFOR senior scientist produced 3.23 peer-reviewed journal articles, books, monographs or book chapters, while the average was only 2.33 peer-reviewed publications per scientist. (Only the International Plant Genetic Resources Institute (IPGRI) had more peer-reviewed publications per scientist.)

1. Essential references for developing-country scientists

CIFOR has produced several dozen books and monographs that have become basic references for developing-country scientists. Often these publications synthesise largely grey literature otherwise inaccessible to scientists; they include texts on:

- Forest ecosystems and management (e.g., Miombo woodlands in Southern Africa, forest ecology and silviculture in Central Africa, dipterocarp forests in Asia);
- Non Timber Forest Products (NTFPs) (e.g., marketed NTFPs, NTFP certification, useful plants of the Amazon);
- Forest plantations (e.g., advantages and disadvantages of fast-growing trees, C&I, pests and diseases in Asia);
- Forestry policies (e.g., Central America, China, Indonesia, Southern Africa, community forestry, economics of deforestation, economic instruments, forest certification);
- Research methods (e.g., assessing biodiversity, measuring household incomes from forests, integrated natural resource management research, adaptive collaborative management).

Five of these publications appeared before 1998; however, they have been utilised largely since that date.

2. *Scientific journals*

CIFOR sought to influence the academic literature because it plays an important role in training forestry professionals and setting the forest research agenda. Policy circles sometimes pay attention to journals such as *Ambio*, *Nature*, *Science* and *World Development*. CIFOR's credibility as a research centre also depends partly on publishing in peer-reviewed journals with high impact factors.

CIFOR has significantly influenced the literature concerned with forestry, conservation biology, rural development and natural resource management. A review of the citation database in the ISI Web of Science in mid 2004 identified 1901 references to CIFOR publications in academic journals, 96 per cent of which were made after 1997⁴. The journals cited 347 different publications of which CIFOR staff members were authors or CIFOR had funded the research. This represents 24 per cent of the 1437 'CIFOR' publications produced before June 2004. Ninety one publications were cited more than 4 times, 17 more than 20 times and 5 over 50 times.

Forty different journals cited CIFOR publications at least four times. The 10 journals with the highest number of citations of CIFOR's research were: *Forest Ecology and Management*, *Conservation Biology*, *Biological Conservation*, *Molecular Ecology*, *Biotropica*, *Biodiversity and Conservation*, *World Development*, *Land Economics*, *Ecological Modeling* and *Ecological Economics*. *Science* cited CIFOR publications 34 times and three *Science* news articles focused on CIFOR's research. Two-thirds of all citations were in journals focusing on forestry (23 per cent), ecology (19 per cent), biology (14 per cent) or economics and development (10 per cent).

Many of the 91 publications cited five times or more deal with forest regeneration, Reduced Impact Logging (RIL), growth and yield models, plant biodiversity, adoption of sustainable forestry practices, causes of deforestation and C&I. Of the 43 most cited CIFOR publications, 37 per cent were overview/synthesis pieces and 44 per cent focused on empirical/case-study research.

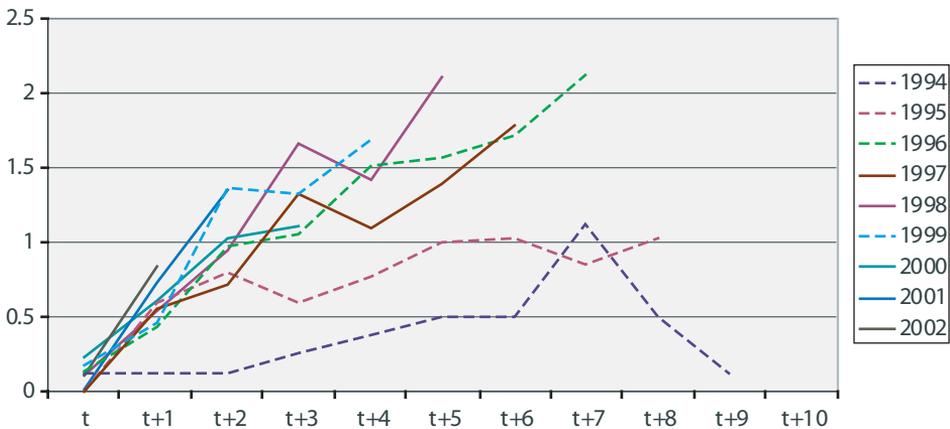
Two-thirds of all citations of CIFOR publications referred to journal articles. Journal articles were much more likely to be cited than other CIFOR publications and were cited more often. Forty three percent of CIFOR journal articles were cited at least once, and those cited were cited an average of 8.5 times, compared to only 5.5 times for cited CIFOR publications as a whole.

⁴ One quarter of the 1437 publications produced by CIFOR between 1993 and mid 2004 were published before 1998. However, since it usually takes several years after a document is published for it to be cited in a journal there were only 74 references to CIFOR publications in journal articles prior to 1998.

Table 3. Citations of CIFOR Publications by Type of Publication

Type of publication	Total publications	Cited publications	Total citations	% cited	Citations per cited publication	Citations per publication
Articles (refereed)	344	150	1270	44	8.5	3.7
Books (refereed)	37	3	3	8	1.0	0.1
Book chapters (refereed)	70	8	9	11	1.1	0.1
Other articles	134	19	63	14	3.3	0.5
Other books	307	64	254	21	4.0	0.8
Other book chapters	385	61	197	16	3.2	0.5
Other publications	160	42	106	26	2.5	0.7
Total/average	1 437	347	1902	24	5.5	1.3

The annual number of citations of CIFOR's research has increased consistently. This reflects three factors. First, the number of CIFOR publications produced each year has been growing. Second, CIFOR has existed for little over a decade and there is a lag between when publications appear and when they are cited. The annual number of citations for each cited CIFOR publication tends to grow steadily for at least four or five years after it appears. Third, more recent CIFOR publications are being cited more frequently than earlier CIFOR publications were being cited after the same amount of time had passed since their publication.

**Figure 2.** Citations by Year after Publication (citations per year for articles that have been cited)

CIFOR in Google Scholar

Simply noting how many journal articles cite CIFOR publications does not give a sense of CIFOR's relative weight within the academic literature as a whole. Looking at the percentage of CIFOR publications among the top 100 items elicited by searches for key words and phrases related to the various topics that CIFOR works on can give an idea of CIFOR's market share.

Google Scholar covers journal articles, books, book chapters and other academic or semi-academic documents. The algorithm that Google uses to determine the order of items that appear when Google Scholar is searched is a trade secret. However, the search engine is designed to list first the publications that Google feels are most likely to be relevant to the individual undertaking the search.

Table 4 shows the number of CIFOR publications that appeared among the first top 100 entries in Google Scholar searches for the key words/phrases listed in the table. CIFOR did not begin publishing until 1994, whereas Google Scholar searches also include earlier publications. CIFOR publications have a slightly higher market share if all publications published prior to 1994 are excluded from the searches, but in most cases the difference is not very great.

Table 4. The Percentage of CIFOR Publications among the Top 100 Entries in Searches of Google Scholar Conducted in June 2005

%	Key Words/Phrases*
20+	forests livelihoods, forest devolution, forests decentralisation, reduced impact logging, Bolivia, Indonesia
10-19	criteria & indicators of sustainable forest management, forest concessions, illegal logging, Miombo, forests structural adjustment, non-timber forest products, secondary forests, forests poverty, sustainable forest management, Cameroon, Zimbabwe
5-9	forestry laws, forestry research, deforestation, forests environmental services, timber plantations, tropical forest ecology management, conservation forest biodiversity, Nicaragua, Gabon, Malawi, Mozambique, Amazon, Africa
3-4	forest policy, forest biodiversity, forest conflict, forest rehabilitation, tropical forest biodiversity assessment, CDM forestry, tropical forests, forest tenure, forest valuation, Tanzania, Honduras, India, Guatemala, Congo Basin, Latin America
1-2	conservation development, forests water, tropical forest fires, tropical silviculture, fuelwood, forestry trade, forest certification, Mexico, Brazil, China, Costa Rica, Peru, Ecuador, Zambia, Asia
0	forests carbon, Philippines, Vietnam, Nepal, Papua New Guinea

* When the key word is a country or region, the search was carried out combining the name of the country or region with the word 'forestry'

International Workshops and Conferences

CIFOR has consistently maintained a high profile in international workshops and conferences, sponsoring some and participating in others. The centre lacks a database that captures all these activities since 1997; however, figures from the first 10 months of 2004 give an idea of their magnitude. During that period, CIFOR sponsored 15 international workshops and 32 national or subnational workshops in 21 countries. The international events focused on decentralisation, sustainable forest management,

capacity building, gender issues, forests and poverty, climate change, forest rehabilitation and INRM. CIFOR scientists also gave several dozen notable presentations at major forestry events organised by other organisations.

Mass Media

Beginning in 2002, CIFOR greatly increased its efforts to publicise its activities through the press. The number of stories mentioning CIFOR rose from only a few in 2001 to 170 in 2002, 330 in 2003 and 520 in 2004. These stories influenced decisions about issues that CIFOR has researched, increased public awareness about forestry issues, and improved CIFOR's profile among key stakeholders.

CIFOR has done well in obtaining coverage in prestigious international media channels. Table 5 gives a partial list of mass media outlets outside Indonesia that ran stories related to CIFOR between 2002 and 2005. These outlets included most of the world's most prestigious newspapers. It is safe to say these stories reached tens of millions of people – and perhaps even more.

CIFOR made a conscious effort to have a strong media presence in Indonesia, to improve its profile in the host country and to disseminate research on specific topics. The Indonesian press accounted for roughly 40 per cent of all CIFOR's press coverage in 2004. Among the print media that ran articles were: *Bisnis Indonesia*, *Gatra*, *Jakarta Post*, *Kal Tim Post*, *Kompas*, *Pos Kota*, *Radar Tarakan*, *Sinar Harapan*, *Suara Pembaruan*, and *Tempo*. TV media coverage included stories on ANTV, INDOSIAR, LATIVI, Metro TV, RCTI, TV7, SCTV and TVRI. Indonesian radio channels also ran many stories.

Key messages that CIFOR managed to disseminate widely through the mass media included:

- Overcapacity in forest processing causes forest destruction in Indonesia.
- Indonesian forestry companies that do not pay their debts should be shut down.
- Pursuing money laundering could reduce illegal logging.
- Rapid growth in Chinese forestry imports threatens other countries' forests.
- Beef exports have become a cause of deforestation in the Brazilian Amazon.
- Macroeconomic trends can have major effects on forests.
- Governments should address widespread violence in forested regions.
- Local governments are becoming more involved in forestry issues.
- Fast-growing tree plantations have both advantages and disadvantages.
- With appropriate policies, selling forestry products could help communities.
- NTFPs can be a good source of income.
- Payments for carbon sequestration could help small farmers if managed well.
- Logging and deforestation are rarely major factors in severe flooding.

When high-profile stories were published that were successful in capturing important policy messages, CIFOR often forwarded them to some 600 key policy makers, donors and opinion leaders around the world.

Table 5. Non-Indonesian news media running CIFOR-related stories since 2001*

<p>Angola AngolaPress.com (online)</p> <p>Argentina Argentina Post (online) La Voz del Interior (online)</p> <p>Australia ABC Radio National Asia Pacific Television Brisbane Courier Mail (online) Canberra Times Daily Telegraph Financial Review (online) Melbourne Herald Sun (online) Radio Australia SBS radio Sydney Morning Herald The Age The Australian The Sunday Mail (online) Townsville Bulletin (online)</p> <p>Bangladesh Bangladesh Sun (online)</p> <p>Brazil A Gazeta BBC Brazil Cultura Radio Cultura TV Diario do Para Folha de Sao Paolo Gazeta Mercantil Iste e dinheiro Jornal Diario do Pará Jornal Tribuna do Norte Liberal Radio Notibras (online) O Economista (online) O Estado de Sao Paolo O Liberal O Paraense TAM airlines magazine TV Acre TV Aldeia</p> <p>Burkina Faso L'Observateur Ougana News (online)</p> <p>Cameroon Bubinga</p>	<p>Cameroon Tribune Canal 2 International CRTV L'Action La Voix du Paisan Le Développement Le Lumière Le Quotidien Mutations Radio Environment The Herald The Post The Witness</p> <p>Canada CTV Edmonton Journal (online) Globe and Mail The Gazette (online) Toronto Star</p> <p>China China Green Times South China Morning Post Taipei Times The Standard</p> <p>Colombia El Tiempo</p> <p>Ecuador El Universo (online)</p> <p>Finland Finnish Broadcasting Network Hameen Samonat (online) Helsingin Samonat Iltasanomat (online) Keskipohjanmaa.net (online) Metsalehti Savon Sanomat (online) Turun Sanomat (online) YLE Radio Finland</p> <p>France Courrier international L'Humanité Le Monde Le Figaro Liberation Radio France</p> <p>Gabon Gabon National TV TeleAfrica</p>	<p>Germany Bundes Regierung Der Tagesspiegel Deutsche Presse-Agentur Deutsche Welle Radio Die Tageszeitung Frankfurter Rundschau General-Anzeiger für Bonn Hamburger Illustrierte Kölnner Stadt-Anzeiger Ausgabe Ludwigsburger Kreiszeitung Mindener Tageblatt Neues Deutschland</p> <p>Guatemala Excelsior</p> <p>India Business Line Business Standard Deccan Herald (online) Press Trust of India The Hindu</p> <p>Iran Teheran Times (online)</p> <p>Ireland Ireland online</p> <p>Italy Il Piccolo</p> <p>Japan Asahi Shimbun Kyodo News Service</p> <p>Korea The Korea Herald (online)</p> <p>Malaysia New Straits Times The Star (online) Utusan Express (online)</p> <p>Malta Malta Business (online)</p> <p>Mexico El Diario DF El Sol de Mexico La Jornada Radio Formula (on-line)</p> <p>Morocco L'Opinion (online)</p> <p>Netherlands Algemeen Dagblad</p>
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<p>New Zealand New Zealand Herald New Zealand World News (online) TZNZ (online)</p> <p>Nicaragua El Nuevo Diario</p> <p>Norway Aftenposten</p> <p>Pakistan Daily Times (online)</p> <p>Peru El Peru no Radio Nacional del Peru</p> <p>Philippines Business World Philippine Headline News</p> <p>Romany Zaire de Mores (online)</p> <p>Singapore Singapore International Radio</p> <p>South Africa News24 (online)</p> <p>Spain El Pays La Voz de Galicia (online) Vivid Hoxie Galicia (online)</p> <p>Sri Lanka Sri Lanka Daily News</p> <p>Sweden Sensual Dagbladet</p> <p>Switzerland Der Bund (online) Swissinfo Tribune de Genève</p> <p>United Arab Emirates Al Bahar.ae (online) Emirates Airlines magazine Khaleej Times (online)</p> <p>UK BBC News BBC World</p>	<p>Financial Times Geographical magazine Guardian Weekly New Scientist Press Association The Guardian</p> <p>USA Aberdeen American News Akron Beacon Journal Biloxi Sun Herald Centre Daily Times Charlotte Observer Christian Science Monitor Chronicle of Higher Education Columbus Ledger - Enquirer Contra Costa Times Detroit News Duluth Tribune Fort Wayne Journal Gazette Fort Wayne News Fort Worth Star Telegram Kansas City Star Los Angeles Times Macon Telegraph Miami Herald Michigan Observer Minneapolis Star Tribune Monterrey County Herald MNBC television Myrtle Beach Sun News National Geographic National Public Radio Nature Newsday North County Times San Francisco Chronicle San Jose Mercury News San Luis Obispo Tribune Santa Fe New Mexican Seattle Times</p>	<p>Science Sun Sentinel Tallahassee Democrat Times Picayune Tuscaloosa News USA Today Voice of America Washington Post Wilkes-Barre Times Leader</p> <p>Vietnam Le Courier du Vietnam (online) Vietnam News Vietnam News Agency (online)</p> <p>Zimbabwe Financial Gazette</p> <p>International Agence France Press AllAfrica.com (online) Asian Wall Street Journal Associated Press Bloomberg Newswire CNN.com Dow Jones Newswires EFE Environmental News Network Far East Economic Review Futures & Commodity Market News (online) International Finance Review Asia International Herald Tribune Inter-press Service Newsweek One World radio Reuters The Economist TIME Asia UN Wire United Press International</p>
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* In many cases media listed as 'online' probably also produced print articles related to CIFOR; however, CIFOR has been unable to confirm this.

CIFOR Web Page

CIFOR's website is another important communications channel for disseminating its messages to the general forestry community. The number of unique visitors using CIFOR's web page rose from 159 000 in 2001 to 400 000 in 2005, and the number of pages visited grew from 246 000 to two million over the same period. Between January 2004 and April 2005 114 000 copies of the 50 most popular CIFOR publications were downloaded through CIFOR's website.

VIII. Conclusion

It is hard to imagine how a moderately sized forest research centre could have achieved more than CIFOR has during its first dozen years. Forestry research is a long-term endeavour, and in the tropics many aspects of the political, economic and biophysical contexts hinder rapid progress. Nevertheless, CIFOR has already produced many tangible results.

National and local governments, international agencies, NGOs, grassroots organisations and private companies often make decisions related to forests based on incomplete and often erroneous information and assumptions. The work by CIFOR and its many partners has begun to change this. As a result, more people have recognised that research and systematic social learning must form part of any serious attempt to improve the livelihoods of forest-dependent people and the state of the forests.

Although it is universally acknowledged that developing countries have the right to determine how to use their forests, scientists and activists from developed countries continue to dominate the debates about tropical forests. To change this will require a new generation of developing-country scientists with strong analytical and methodological skills and hands-on-research experience. CIFOR and its partners have contributed significantly to this.

