Department of Economic and Social Affairs
Secretariat of the United Nations Forum on Forests

Review of the Effectiveness of the International Arrangement on Forests

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DESA

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Preface

Negotiators and observers of the intergovernmental forest policy debate of the past two decades are fully aware of the complexities of forest issues with competing priorities and often conflicting demands on stakeholders. Recent natural disasters such as the tsunami in the Indian Ocean, the Katrina and Rita hurricanes on the Gulf Coast of the United States of America and wild forest fires in a number of countries further heighten the awareness of the vulnerability of natural resources and ecosystems of planet Earth. Frequent flooding and droughts, continued loss of biodiversity, greenhouse emissions and the resulting global warming crisis, on the other hand, make us realize how interconnected and interdependent we all are with respect to the incidents, accidents and actions in any part of the world. Moreover, the globalizing forces of commerce, communication and other modern technologies have made the world a proverbial smaller village.

Everything we do has consequences, both good and bad, to people and resources near and far away. In this regard, concern for alarming deforestation and forest degradation, on the one hand, and apathy regarding poverty-stricken societies/countries, on the other, have stimulated the human conscience to converge for a common ground on forest issues. The United Nations Forum on Forests (UNFF), like its ad hoc predecessor processes, provides a valuable platform for global forest dialogue in a broad and comprehensive manner. It has galvanized Governments to agree on a Plan of Action to implement the previously adopted Agenda 21, the Forest Principles and the Intergovernmental Panel on Forests/Intergovernmental Forum on Forests (IPF/IFF) proposals for action. It provides a noble mechanism for enhancing understanding of different issues and perspectives concerning sustainable forest management, and for forging the collective strength needed to solve forest problems. UNFF also facilitates enhancement of stakeholder involvement and international cooperation among intergovernmental organizations. Since its establishment in 2000, the Forum has reviewed the implementation of specific elements of the Plan of Action, learned from country experiences and taken appropriate decisions to move forward in promoting people-oriented sustainable forest management (SFM) on the ground. This publication is a testimony to this common vision and action.

The study is based on voluntary national reports from 74 countries, representing 70 per cent of forests in the world. Readers are cautioned to be careful in generalizing and drawing inferences on the basis of the study. Some may argue that Governments are not willing to give a full and frank account of all the difficulties they face, such as continuing deforestation on a massive scale, and their reports can be viewed by the cynic as self-

congratulatory propaganda. While there may be an element of truth in this, it is not a universal truth.

These issues do, however, prompt us to ask some fundamental questions. How credible is a self-assessment? Is there willingness among Member States to receive third-party assessments? Will UNFF commission its own fact-finding studies, exploring all sources of information, in addition to national reports? While voluntary national reporting is useful, an external review can help gain a more objective view of problems and opportunities for countries. Such reports will have greater credibility with donors and could be a useful tool to facilitate implementation, attract funding and support investment.

Credibility and transparency are essential in order to make UNFF a robust and effective forum. I would also like to put forth the following additional questions to readers to muse over:

- How open and inclusive should the Forum aim to be, particularly in the context of criticisms from civil society organizations about its lack of openness?
- How should the Forum address emerging issues and challenges such as:
  - —Forest governance at both local/landscape and global levels;
  - —The internal conflict, peacebuilding and forest nexus;
  - —Streamlining forests with a broader development agenda;
  - —Invasive species, pests, diseases, forest fire and forest health;
  - —Cross-sectoral issues, including reconciling specific provisions related to forests in other legally binding instruments (LBIs) such as UNFCCC, UNCCD, CBD, CITES and the International Tropical Timber Agreement, as well as regional instruments.

National reports, despite the likelihood of some degree of the usual self-congratulatory notion of successes and achievements, on close observation provided valuable information about gaps, weaknesses and lack of progress or capacities. Of course, one has to look closer, as the information is often implicit. Also discernible from the national reports is a sense of hard realities and the frustration felt by implementing agencies in countries regarding the lack of real action at the national and international levels on the critical issues of deforestation, inadequate or undervaluation of forest resources and means of implementation, particularly financing sustainable forest management.

Lastly, many negotiators and observers in particular, and the public in general, may still be asking whether the United Nations Forum on Forests is the body best suited to deal with the multifaceted, complex issues of forests in a way that will reconcile a multitude of interests and stakes within and outside national boundaries. I would argue that this high-level UN body may not be perfect, but it is the best among the available and feasible

arrangements/instruments today. It is the most inclusive, most universal and highest international body dealing with forest issues in the most comprehensive manner—all types of forests; all issues of and affecting forests; and the interface between sustainable forest management and sustainable human development. What we need now is to reflect upon and learn from past performance and then gear for the reform and revitalization of our Forum. It is time to strengthen and redirect the Forum in order to make it a more relevant and effective body that will be more action-oriented. It also has to emerge as a trustworthy new international body that is no longer a typical policy talk-shop.

I hope this publication sensitizes its readers to the significance of healthy forests for the health of the planet and its inhabitants, and prompts more constructive dialogue for action. If it succeeds in doing so, then I believe it will have served its purpose.

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1. Introduction

Background

The purpose of this paper is to give an account of actions for sustainable forest management (SFM),[1] based largely on voluntary reports submitted to UNFF. By doing so it could help readers benefit from the richness of experiences of the global community, facilitate the process of learning from each other and contribute to informed decisions when developing policies and setting targets.

Widespread use of the term "SFM" has its origins in the United Nations Conference on Environment and Development, held in June 1992, and in particular the so-called Rio Forest Principles[2] and Chapter 11 of Agenda 21. While SFM is not specifically defined in them, the Rio Forest Principles recognized that forest resources and forest lands should be sustainably managed to meet the social, economic, ecological, cultural and spiritual needs of present and future generations. Understanding of the concept of SFM has continued to evolve since 1992, although it may require further elaboration to improve understanding (for example, among people outside the forest sector). In 1995, CSD decided to establish IPF with a two-year mandate to build consensus on 11 priority forest-related issues. Subsequently, the General Assembly decided, at its special session devoted to the overall review and appraisal of the implementation of Agenda 21, held from 23 to 27 June 1997, to maintain the momentum generated by IPF and to establish IFF, with a mandate to report in 1999. During those five years, IPF and IFF agreed on over 270 proposals for action towards SFM.

When ECOSOC decided, by its resolution 2000/35, to establish an international arrangement on forests, consisting of UNFF (supported by CPF[3]), it specified the implementation of the IPF/IFF proposals for action as a principal function. In its multi-year programme of work and its plan of action, UNFF agreed to cluster the proposals for action according to a number of thematic elements. These elements were considered at the second, third and fourth sessions of UNFF, as substantive themes, as common items (such as promoting public participation) or as means of implementation. This paper uses these thematic elements, set out below, as section headings:

- Formulation and implementation of national forest programmes;
- Maintaining forest cover to meet present and future needs;
- Combating deforestation and forest degradation;

[1] Abbreviations used in this paper are given in annex I.

[2] The full title is "Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests".

[3] CPF members are noted in annex I.

- Rehabilitation and restoration of degraded lands, and the promotion of natural and planted forests;
- Forest health and productivity;
- Economic aspects of forests;
- Promoting public participation;
- Social and cultural aspects of forests;
- Traditional forest-related knowledge;
- Forest-related scientific knowledge;
- Forest conservation and protection of unique types of forest and fragile ecosystems;
- Rehabilitation and conservation strategies for countries with low forest cover;
- International trade and sustainable forest management;
- Financial resources;
- International cooperation in capacity-building, and access to and transfer of environmentally sound technologies to support sustainable forest management;
- Monitoring, assessment and reporting, and concepts, terminology and definitions;
- Criteria and indicators of sustainable forest management.

Sources of information

The primary sources of information for this paper are the reports submitted to UNFF. Member States were invited to submit voluntary national reports on the implementation of IPF/IFF proposals for action considered at the second, third and fourth sessions of UNFF (in 2002, 2003 and 2004, respectively). In addition, as part of the 2005 review of the international arrangement on forests, member States, CPF members and other relevant organizations and forest-related processes were invited to submit voluntary reports on the implementation of the IPF/IFF proposals for action to the fifth session of UNFF, and to respond to voluntary questionnaires about the effectiveness of the arrangement. Where relevant, information from questionnaire responses is also referred to in this paper.

For the third and subsequent sessions of UNFF, the secretariat issued *Guidelines and a Suggested Format for Voluntary National Reports*.[4] These *Guidelines* invited respondents to provide information in their voluntary

[4] The *Guidelines*, which are available on the UNFF website (*http://www.un.org/esa/forests/reports*), identify the UNFF sessions at which the different substantive themes were discussed, and provide cross-references to relevant IPF/IFF proposals for action. Voluntary reports and questionnaire responses are also available on the website, and may be accessed for further information on points referred to in this paper.

reports on activities or initiatives undertaken since 1997, progress made, constraints encountered, lessons learned and issues that had emerged, as well as relevant information related to means of implementation (financing, transfer of environmentally sound technologies and capacity-building). Where appropriate, the *Guidelines* subdivided the thematic elements, and these subdivisions are used as subheadings in this paper.

In total, 74 countries submitted reports and/or questionnaire responses to UNFF. Their geographical distribution is shown below:

Countries submitting voluntary reports and/or questionnaire responses

	Africa	*Asia*	*Eastern Europe*	*Latin America and Caribbean*	*Western Europe and other*	*Total*
Total	15	17	11	9	22	74

These countries include those of all sizes, all levels of forest cover and all stages of development. In total, they account for about 70 per cent of global forest cover. Annex II lists these countries, together with the CPF members and other relevant organizations and forest-related processes that submitted reports and/or questionnaire responses; it also lists the reports of the Secretary-General that drew upon these primary sources. Where it makes sense do so, this paper groups examples from different countries on a regional basis; but this practice is not necessarily followed if, for example, it makes better sense to present examples in a thematic way.

This paper attempts to convey the essence and richness of the original submissions by quoting actions referred to by particular countries and organizations. Material from other reports (such as those of country- and organization-led initiatives held in support of UNFF) is included where it was quoted in these submissions. A comprehensive account of these country- and organization-led initiatives is, however, outside the scope of this paper, which focuses on the action taken by countries, rather than the international dialogue that helped to stimulate such action.

2. Formulation and implementation of national forest programmes

The *Guidelines* invited countries to provide information on the:

> "development and implementation of your national forest programme or similar national policy framework for forests".

The conclusions of the report of IPF on its fourth session[5] outline the general concept of nfps and set out their agreed general attributes and principles. Nfps include a wide range of approaches for the achievement of SFM; they should be based on national sovereignty, specific country conditions and national legislation, and should be consistent with national, subnational or local policies and strategies and, as appropriate, international agreements.

The reports demonstrated that substantial and significant work has been done in many countries to put in place nfp processes that are in line with the general definition and broad principles defined by IPF/IFF. A survey carried out by FAO in 1998/99 showed that 104 countries were already implementing nfps, and a further 34 countries were at the stage of planning the development of an nfp. In their voluntary national reports, 44 countries explicitly stated that the IPF/IFF proposals for action were taken into account when formulating their nfps, or similar frameworks. A survey of nfps in Europe[6] revealed that the full value of the nfp process is increasingly being recognized. CPF members have facilitated nfps in a number of important ways, including through the National Forest Programme Facility and PROFOR.

Typically, the process of formulating nfps, or similar frameworks, involves information gathering, consultation with other parts of government and stakeholder consultation. Consultation is extremely important, since the participation of stakeholders is generally regarded as an invaluable means for building ownership for an nfp process and for ensuring its implementation. Countries noted the need to balance the different strengths and weaknesses of the various stakeholders, and pointed out that the number of stakeholder groups has increased over time, with a broadening of interest in forests. However, one of the major group representatives (FERN/FPP) reported on case studies[7] citing examples where proposals made by indigenous peoples and civil society groups had not been addressed in nfps.

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[5] See E/CN.17/1997/12, paragraphs 8-17.

[6] *National Forest Programmes in Europe*, presented at an MCPFE workshop, held from 22 to 24 November 2004, in Gdansk, Poland.

[7] Prepared for the Expert Meeting on Traditional Forest-related Knowledge and the Implementation of Related International Commitments, held in San José, Costa Rica, from 6 to 10 December 2004.

There is a need to ensure the integration of nfps with international objectives, and the significance of these international objectives may need to be explained to local stakeholders. In addition, there is often an important regional dimension; for example, the report from El Salvador noted that its nfp is in harmony with the Central American Forest Strategy, and a number of countries in Eastern Europe referred to policy adjustments associated with their accession to the EU.

Linkages with policy and planning processes in other, related sectors are also important. Reports highlighted cross-references between nfps and national action plans relating to other MEAs, such as CBD, UNCCD and UNFCCC, as well as PRSPs, and emphasized the need to clarify the relationship between the forest sector and other sectors, such as agriculture, energy and environment. To take one example from many, the report from Malawi explained that the following policy frameworks and strategies have recognized the value of forests: the National Forestry Programme (2001), the National Biodiversity Strategy and Action Plan (2004), UNCCD Country Reports and Action Plans, the Malawi National Strategy for Sustainable Development and the National Environmental Policy. As pointed out by Burkina Faso, this multiplicity of plans and programmes gives rise to a complex institutional landscape that can make coordination difficult, especially where national capacity and/or resources are limited.

Where responsibility for forests lies at the subnational level, the approach taken to nfps may vary within a country. For example, in Belgium, Flanders has a Long-term Strategic Plan and an Action Plan for forests, while Wallonia deals with forest-related issues in its Environmental Plan for Sustainable Development. Some countries have arrangements for internal coordination. In Canada, there is a coalition of forestry ministers from the provinces and territories that promotes voluntary implementation of Canada's national forest strategy through provincial and territorial strategies. Malaysia has a National Forest Council, chaired by the Deputy Prime Minister, where federal and state governments meet to discuss forest-related issues. In Senegal, the process of planning has been decentralized since 1999 and so regional forest action plans are drawn up on the basis of actions defined by rural communities, within the context of national policies on forests, environment and poverty reduction. Meanwhile, Spain has a Forest Plan that provides a national framework for the forest plans of the different autonomous communities.[8]

Several countries explained their approach to setting goals and targets. In India (another country where forest policy and planning are a concurrent responsibility of the central government and state governments), there is a goal of increasing forest/tree cover to 33 per cent over 20 years, with forests being treated primarily as environmental and social resources and

[8] A country-led initiative on decentralization, federal systems in forestry and national forest programmes was held in Interlaken, Switzerland, from 27 to 30 April 2004.

only secondarily as a commercial resource. Sweden has started a consultation process for quantifiable targets to help clarify forest policy; most of the interim targets relate to 2010 and examples include a 40 per cent increase in the amount of dead hardwood left in the forest (to enhance biological diversity), a halving of the level of unsatisfactory regenerations, and the establishment of agreements between the forest administration and 80 per cent of municipalities regarding the long-term forest management of urban woods. The Swiss nfp includes 12 quantified objectives for the year 2015 and 100 prioritized measures.

Countries often face serious challenges in implementing nfps. For example, in Benin there is a need to overcome the problems posed by an inadequate institutional framework. The report from Finland noted, in relation to its international development cooperation activities, that adequate time must be allowed for effective participation, and that there is a need to recognize that finance for implementation must come from other stakeholders and not only the government. The report from Serbia and Montenegro explained that the extended period of political instability and constant changes at the governmental level have made planning for the future very difficult.

One of the benefits of nfps is to help secure stronger political commitment to forests. For example, in Colombia, some of the nfp goals are now included in the Government's National Development Plan. Finland also referred to evidence of strengthened political commitment and associated budget support since the launch of the nfp, adding, in the context of its international development cooperation activities, that the nfp formulation process can provide a vehicle for improved donor coordination. Other benefits include the stimulation of discussions, at the local and national levels, on forest policy and related cross-sectoral issues. The Confederation of European Forest Owners noted that nfps are a constructive tool for translating relevant IPF/IFF proposals into action at the national level and, if done well, can give forest owners a useful platform to communicate with other stakeholders.

Some countries do not consider it necessary to have a specific nfp. For example, in the Netherlands, the policy paper "Nature for People—People for Nature" (2001) adequately covers all the elements of an nfp. New Zealand has a cross-sectoral approach to resource management that controls adverse effects on the environment and establishes a neutral legislative and economic framework; since commercial and non-commercial forestry is treated fairly and equitably with other land uses, there is no need for an nfp. In the United States of America, the law requires Congress to approve a programme for the management of the national forests (administered by the United States Forest Service) every five years. This counterpart to an nfp also includes a research strategy and guides cooperative working with states, local governments and, through them, the private sector, but it does not provide direct guidance for the management of other federal or state lands, or forest lands managed by the forest industry, tribal authorities and small private owners.

3. Maintaining forest cover to meet present and future needs

Harmonizing policy frameworks

The *Guidelines* invited countries to indicate:

> "progress made and lessons learned in efforts to harmonize or to make compatible policy frameworks in your country (e.g. national forest programme or similar policy framework for forests, biodiversity strategies and action plans, national action plans to combat desertification etc.) that collectively address the full range of forest values".

Cross-sectoral collaboration and cooperation are important, and the maintenance of forest cover to satisfy present and future needs can be achieved only by taking account of often complex linkages with wider economic, social and environmental interests, including the needs of those whose livelihoods depend upon forests. One example of this, drawn from El Salvador, is the importance of linkages with energy strategy: fuelwood accounts for about 50 per cent of energy needs, but it is in increasingly short supply and the option of promoting the use of propane gas has major implications in terms of economics, infrastructure and distribution networks.

It is, however, clear from the reports that harmonizing policy frameworks is not always easy, especially where forests have relatively little direct economic and political importance to the country. Sometimes harmonization is achieved where forests are integrated into ministries that also have responsibility for other sectors, such as agriculture, rural development and the environment. There are also various mechanisms for interdepartmental consultation: for example, the establishment by Indonesia of an Interdepartmental Forum on Forests in 2001; and the requirement in Malaysia that decisions of the National Forest Council must be endorsed by the more broadly based National Land Council.

Assessing long-term trends in national supply and demand for wood, non-wood forest products and services

The *Guidelines* invited countries to provide information on:

> "recent efforts to assess long-term trends in national supply and demand for wood, non-wood forest products and services and on whether your country's national forest programme or similar policy framework for forests takes into consideration future needs for forest goods and services".

Countries were also invited to provide:

"views on how enhanced cooperation at the regional and international levels, including through UNFF, could further facilitate implementation of the IPF/IFF proposals for action".

The reports showed that there has been a steady development of forest sector planning efforts at the national level, complemented by regional and global outlook studies for the forest sector. Studies and publications include FAO's FRA, Global Forest Products Outlook Study, Global Fibre Supply Model, Global Woodfuel Outlook Study, *State of the World's Forests* and regional outlook studies; and UNEP's Global Environmental Outlook.

Effective implementation of the IPF/IFF proposals for action can be enhanced by improving the information base for effective forest sector planning both through developments at the national level and through the use of relevant results from these regional and global studies. Some countries have well-developed methods for forecasting long-term trends for national supply of wood, and have been broadening their approach to encompass NTFPs. They have also developed sophisticated methodologies for assessing long-term trends in demand, taking into account a wide range of social and economic variables, including the impact of substitutes and changing patterns of trade. But there are other countries that have not carried out any assessment of long-term trends in the supply and demand of wood and non-timber forest products, or where any such assessments have been limited.

A number of studies (including those undertaken in Benin, El Salvador and Malawi) have identified some serious challenges in terms of current or future wood shortages. Other countries identified very different challenges, such as the need to respond to changing patterns of demand for tourism and the increasing recognition of the important landscape values of forests.

Some countries referred to proactive work being undertaken to stimulate demand for forest products through promotional campaigns. For example, Finland has launched programmes to increase the consumption of wood products as an environmentally friendly and sustainably produced material, and there is a similar initiative in the United Kingdom of Great Britain and Northen Ireland.

4. Combating deforestation and forest degradation

Understanding the causes of deforestation and forest degradation

The *Guidelines* invited countries to provide information on:

> "preparing diagnostic studies to analyse historical and underlying causes of deforestation and forest degradation, including processes outside the forest sector".

Despite some positive trends, the FRA published in 2000 revealed continuing forest loss in all regions except Europe and North America. During the 1990s, the net loss in global forest cover averaged 9.4 million hectares per year. Underlying causes of deforestation are complex and varied. For example, pressures to use forest land for agriculture and grazing, and to exploit forest products at an unsustainable level, are often rooted in poverty. There were particular examples of this in reports from Africa, Asia and Latin America.

Examples from Africa included:

- A study of the forest sector in Benin that identified problems of itinerant agriculture on burnt forest land, extensive grazing (including that caused by transhumance from neighbouring countries) and uncontrolled felling of valuable and threatened species;
- Concern in Burundi that population growth will continue to be a major factor, since it is impossible to deny people access to the resources they need for survival;
- Studies in Senegal that highlighted the significance of demographic pressure, with associated demand for forest products (especially fuelwood), overgrazing, mining and clearance for agriculture, and noted that changing climatic conditions exacerbate bush fires;
- The Sudan attributed deforestation to consumption of forest products and expansion of agricultural land area;
- Underlying causes of deforestation in Togo include conversion of land to grow cacao, coffee and cotton; mismanagement of existing forests; fire; and grazing by cattle.

Examples from Asia included:

- Identification, in Cambodia, of the direct causes of deforestation or degradation of forests as improper management in concession areas, illegal logging, improper management in protected areas and non-concession areas, conversion of forest lands for agricultural purposes, and limited reforestation activities. The report also recognized that poverty in rural communities is one of the underlying causes of these problems;

- Studies in the Islamic Republic of Iran that highlighted the significance of factors outside the forest sector, including population growth and increased needs for agricultural land, urbanization and the expansion of industry. In recent years, legislation has restricted land-use change;
- Studies in Thailand that attributed deforestation to increased demand for agricultural land and to commercial logging. It was noted that a national logging ban had removed pressure on natural forests and that increased use of natural gas had reduced demand for fuelwood and charcoal.

Examples from Latin America included:

- The significance, in El Salvador, of high population density, associated with pressure on agricultural land in a relatively small country;
- Recognition by Peru that agricultural migration, which is a principal cause of deforestation, is itself a consequence of poverty.

Some countries highlighted the adverse impact of war. For example, in Croatia, one consequence of war has been the potential danger from unexploded mines in 65 per cent of the forest area, preventing access for management purposes, and increasing pressure on accessible forests. In Viet Nam, some 4.5 million ha of forest were destroyed by bombs and chemicals; and after the war, timber demand for post-war reconstruction was a major cause of deforestation.

Ownership structure can also be significant. In Portugal, the fragmentation of forest property and absentee forest owners, as well as the high level of forest fires, were the main obstacles to effective afforestation and reforestation policies. Romania noted that forest restitution, following political changes, led to rapid cutting of forest by the new owners in the early 1990s, but the situation is improving as owners become more confident of their property rights, and measures have been taken to promote SFM on private land.

The pressure on forest land for building and other infrastructure development (such as roads) can also be a significant factor. For example, in the United States, this has led to the loss of about 2 million hectares per decade, and is itself associated with economic growth and the migration of the population from rural to metropolitan areas. The report from the United States also noted that forest owners sometimes need to sell their land because high development values can increase taxation liabilities.

Some reports focused on forest degradation. For example, the current degradation of forests in Poland results from a number of factors, including air pollution, excessive fragmentation of forest areas, conversion of mixed and broadleaved forest into coniferous monocultures for intensive production, and forest fires. Other causes of forest degradation include problems caused by pests and diseases, invasive species and heavy selective felling for the more valuable species.

A number of countries provided a longer-term historical perspective. The report from Cyprus explained that it was once heavily forested (with timber as a major export), but that large quantities of wood were used for industrial purposes from Bronze Age times onwards. Other historical factors were drought, overgrazing, misuse of forests, forest fires and the high demand for fuelwood and charcoal to meet basic energy needs; drought and fire are still major factors affecting deforestation. In the nineteenth century, population growth in Serbia and Montenegro caused deforestation and subsequent erosion in mountainous areas; this was associated with serious flooding and, as a result, felling controls were introduced. IUFRO Research Groups have been examining the main driving forces and underlying factors of forest degradation in Central Europe over the last 400 years.

Deforestation is not a problem in every country. For example, the report from Luxembourg explained how historical overexploitation, caused by demand for agricultural land and charcoal, has given way to forest restoration over the past 150 years. In Switzerland, the forest area is increasing and there is no need to take action to promote further increase in the forest area.

Another perspective is provided in the report from the Republic of Korea, which explained that some deforestation is unavoidable. This is because forests cover 64 per cent of the land area and some of this land is required for roads, residential sites, construction sites and agriculture. The report noted, however, that the rate of deforestation is now decreasing and some degraded and fallow land is being rehabilitated.

Addressing the causes of deforestation and forest degradation

The *Guidelines* invited countries to provide information on:

> "formulating and implementing national policies and strategies, through an open and participatory process, for addressing the underlying causes of deforestation".

In addition to the development and implementation of nfps (and similar frameworks), action taken by countries to address the causes of deforestation and forest degradation has included the use of regulation, cross-sectoral measures and the promotion of forest restoration (which is discussed in chapter 5).

Examples of regulation include requirements for environmental impact assessment of land-use change; demarcation of the external boundaries of the permanent forest estate; development of codes of practice and guidelines for forest harvesting; a decree (in Lebanon) forbidding the production of charcoal (which is a major cause of forest fire), although firewood collection by permit is still allowed; and recent changes in federal estate tax laws in the United States to reduce the tax burden associated with retaining forest land with potential development value.

Examples of cross-sectoral measures included:

- Policies for energy conservation, including improved stoves, more efficient charcoal burning and the substitution of woody fuels with other fuels (such as peat, biogas and solar energy) in Burundi, where wood provides more than 95 per cent of total energy needs. Despite some progress, these programmes have not yet had the anticipated impact;

- Reduction in the use of biomass, for example through the use of biogasification technology and the improvement of cooking ranges in rural areas of the Democratic People's Republic of Korea, where the demand for energy is approximately equivalent to the annual increment of forest biomass;

- Changes in agricultural practice, aimed at reducing the level of deforestation, in Mexico;

- Promotion of energy alternatives in the Sudan, where two thirds of the population are rural and largely depend on fuelwood as the main source of energy. To help meet the fuelwood deficit, encouragement is being given to the use of other biomass alternatives, through the distribution of gas cylinders, and to the use of brick ovens and traditional bakeries using gas and kerosene instead of firewood and charcoal.

Notwithstanding this progress, a number of reports, particularly those from developing countries, highlighted the difficulties they face in implementation and law enforcement because of the lack of necessary resources, including trained personnel, infrastructure and equipment. In order to make further progress in combating deforestation and forest degradation, it is clear that further efforts are needed to address underlying causes, to improve cross-sectoral coordination with other sectors (such as agriculture) and to strengthen means of implementation.

CPF members have facilitated action in a number of important ways. For example, ITTO's Objective 2000 supports countries as they move towards achieving exports of tropical timber and timber products from sustainably managed forests. FAO, in collaboration with ITTO, is preparing a set of guidelines on best practices for better law compliance in the forest sector for decision makers to follow in reducing illegal operations in the sector. FAO is also helping to develop practical guidelines for responsible forest management and environmentally sound harvesting codes. The CBD expanded programme of work on forest biological diversity adopted in 2002 includes activities geared towards reducing deforestation and forest degradation. GEF provides funds through its OP 15, which addresses SFM in the wider context of sustainable land management and includes support to sustainable agriculture and rangeland management.

Raising awareness of the importance of deforestation and forest degradation

The *Guidelines* invited countries to provide information on:

> "raising awareness of the importance of issues related to deforestation and forest degradation and the multiple values of forests".

The reports showed that if deforestation and forest degradation policies are to be effective, people need to understand the consequences of failing to take action. In Thailand, improvements in forest management have succeeded as a result of a public outcry for stronger conservation and protection; this increased social appreciation of forests is itself a consequence of natural disasters (such as landslides) attributed to deforestation and forest degradation. Finland suggested that the importance of forests should be presented in terms of their potential contribution to human development and poverty reduction, since economic and social arguments often carry more weight than purely environmental arguments.

Common approaches to awareness-raising include publications, articles in newspapers and magazines, documentary films, television and radio, and teaching about environmental issues and the consequences of forest degradation in schools. Cambodia has a National Tree Planting Day,[9] and also uses community forest management, extension activities, cooperation with NGOs, videos and the media to raise awareness. The Congo uses a National Day of the Tree to promote SFM. Cyprus mentioned the value of lectures to soldiers in the army and other organized groups about the benefits of the forests and the need for protection. Ireland has a NeighbourWood Scheme to encourage the development of community woodlands in and around towns and cities. Malawi held a National Forestry Week in 2004 during which all stakeholders were encouraged to help rehabilitate degraded forests through tree planting and proper forest management practices. In Senegal, projects promoting the availability of microfinance are used as an opportunity to help raise awareness about the insidious impact of forest degradation. The Sudan uses forestry extension to increase public awareness through village committees and forestry associations; there is also an annual Arbour Day, when seedlings are distributed free of charge. In the United States, NGOs and land trusts are educating landowners about the use of conservation easements and other mechanisms for keeping family forests intact.

[9] No reports mentioned World Forestry Day, suggesting that it has a low profile, and that there is a preference for promoting such initiatives at the national level.

5. Rehabilitation and restoration of degraded lands, and the promotion of natural and planted forests

Creation of new forest resources

The *Guidelines* invited countries to provide information on:

> "promoting the creation of new forest resources through plantations and on recognizing their role in the rehabilitation of degraded lands and forests in environmentally critical areas".

Action taken by countries has included forest restoration through natural regeneration, the establishment of plantations and agroforestry projects. Several examples were given to illustrate the importance of plantations in reducing the pressure on natural forests, without causing undesirable social or environmental side effects. China has recognized that it cannot meet its long-term needs for timber merely by depending on natural forest and timber imports. Thus, fast-growing and high-yielding plantations are being developed to meet the domestic demand and to release the pressure on natural forests. New Zealand has long recognized that the felling of natural forests, for agricultural development and to meet wood needs, would eventually lead to the clearance of all accessible areas, and accordingly took action to establish its present substantial plantation-based wood resource. In the Russian Federation's mixed forest zone, the basic method of restoration is through plantation establishment, although natural means are used for forest restoration in taiga forests. Spain is promoting fast-growing plantations on land that will produce quality wood to reduce the deficit in wood production and to help the economy of depressed rural areas.

Other countries mentioned some of the difficulties they face in establishing plantations. One of the challenges is the supply of suitable land: for example, El Salvador wishes to increase production from plantations, but there is also strong demand for land to grow coffee. Lebanon's plantation programme, using mainly indigenous species, was interrupted by civil war. Afforestation in Serbia and Montenegro was also interrupted by wars. In the Sudan, plantation establishment declined following disruption of foreign aid and the halt of federal support in 1996.

A number of African countries gave further details of their experiences in taking action to rehabilitate and restore degraded lands:

- Work, in Lesotho, to integrate trees fully into farming and livelihood systems. Problems include the need to recognize the reality of limited land and pressures from alternative land uses; a lack of funds and other resources for planting or for tending existing plantations; poor access due to deterioration in the condition of roads; illegal

felling; drought; fire; and grazing. Emphasis is now being given to models of forestry development that focus on individual ownership, rather than larger communal activities, where uncertainty regarding the allocation of future benefits can act against people's willingness to protect and manage the resource;

- Work with NGOs, in Malawi, to involve communities in SFM and agroforestry projects; support for private sector participation in forest resource creation and encouragement for agricultural estates to plant trees to meet their future wood needs on site; creation of new forest resources through the distribution and sale of tree seed (for example, to village-level communities, schools and associations); and reforestation of public land by the forestry department. Nevertheless, the rate of reforestation is still low relative to forest resource use and depletion, because it is constrained by resource availability;
- Experience, in Togo, which shows that people only engage in forest protection when they find that it is in their interest to do so. A pilot participative project is aiming at a consensual approach towards SFM, afforestation and agroforestry.

Further examples of experiences from Asia included:

- Extension of tree planting with indigenous species in Cambodia, particularly in the areas where socio-economic, environmental and wildlife conservation is given high priority. A "Cambodia Tree Seed Project" aims to conserve endangered and rare tree species, and a national gene ecological zonation has been developed as a tool for planning of gene conservation and seed use;
- Within China, there are two main forestry systems, namely, an ecological forest system and a forest industry/plantation system. Emphasis is given to the ecological system in fragile areas and in the western arid regions, which are of particular environmental importance, with deterioration of the local ecosystems posing a threat to ecological and economic development in the lower reaches of river basins. Since 2000, GEF has contributed to a programme in western China to demonstrate integrated management for sustainable development through effective land degradation control;
- Strategic goals in the Democratic People's Republic of Korea include afforesting 1.5 million hectares of devastated land to control soil erosion and protect water supplies; restoring degraded forest ecosystems; establishing a windbreak network with fast-growing tree species in coastal plains and on the northern high plateau; conserving typical ecosystems species and gene resources in the north-eastern region; creating 1 million hectares of forest with high timber production potential in suitable areas; establishing sylvopastoral systems in 1 million hectares of vulnerable mountain areas; promoting agroforestry;

enhancing biomass productivity; greening rural villages, for example with fruit trees; greening of roadsides, riverbanks and seashore with ornamental or protective tree belts; and greening of cities;

- Indonesia has launched a national programme of land and forest rehabilitation targeting approximately 3 million hectares of forest over five years. Seed centres have been established in several provinces, and particularly in villages where there is an emphasis on community forestry. There is ecosystem restoration in production forest areas, conducted through natural and plantation forest management. Constraints include the difficulty of restoring degraded land, limited logistical support, limited seed, lack of effective mechanisms for involving communities in land rehabilitation and restoration, poor budgeting and delayed funding. The promotion of NTFPs (such as honey and silkworm production) is being used as a means of providing incentives to farmers;
- Following experience of successful forest restoration in the Republic of Korea, a further 1 million hectares is planned for planting over a five-year period. Particular benefits include the promotion of cleaner water supplies around the five major rivers;
- In the Philippines, landholders were required to plant riparian zones within 20 metres of rivers and streams, and to rehabilitate and protect forest areas at an altitude of more than 1,000 metres;
- Thailand launched a major reforestation initiative as part of its Royal Jubilee celebration, which is being supported by private sector and voluntary donations;
- In Viet Nam, there is a 5 million hectare Reforestation Programme; promotion of community forestry; encouragement for people to participate in forest protection and reforestation through forest land allocation and the granting of land use rights for up to 50 years; land-use tax reduction and exemption; soft loans and credit for plantation development; and technical support.

Some countries reported on action taken to rehabilitate and restore land degraded by industrial activity. For example, in the United Kingdom, there are numerous examples of such restoration, which include open-cast coal mining sites in South Wales and former industrial sites in north-west England. One current programme is restoring brownfield and contaminated land to create community woodland.

In terms of global data, FAO publishes information on the development of planted forests and provides technical support. In 2004, FAO carried out a study on the impact of incentives on the development of forest plantation resources in the Asia-Pacific region, which emphasized the importance of an enabling investment climate and of removing structural impediments. ITTO, in collaboration with others, has prepared guidelines on the restora-

tion, management and rehabilitation of degraded and secondary tropical forests. Other support from CPF members has included the work of CIFOR and ICRAF on agroforestry. Several CPF members are also partners, with Governments and other organizations, in the Global Partnership on Forest Landscape Restoration.[10]

A UNFF intersessional country-led expert consultation held in New Zealand in 2003 entitled "Role of Planted Forests in Sustainable Forest Management" made recommendations on a range of issues to promote the importance of their role to the international community.[11]

Meeting increasing demand for wood and non-wood forest products and services

The *Guidelines* invited countries to provide information on:

> "promoting policies to meet increasing demand for wood and non-wood forest products and services through sustainable forest management".

Approaches to this issue vary widely, according to circumstances. As illustrated in chapter 4, some initiatives have focused on providing alternatives to wood, particularly as a source of energy. In other countries, including, for example, Western Europe and other countries and North American countries, there is no shortage of wood, and policy measures have concentrated on promoting increased use of wood-based products as environmentally friendly and sustainably produced products. Where the shortage of wood is a serious issue, innovative approaches have included working closely with communities to develop solutions, such as agroforestry systems, which can help meet future needs for wood and NTFPs within the context of broader livelihood requirements. The reports also referred to work done to encourage maximum utilization, and minimum wastage of wood. Examples include the improved utilization of less-used species; the processing of smaller logs, for example by gluing; the reuse of construction timber; and the recycling of waste paper.

An important challenge in the Russian Federation is the need for investment in transport and industrial infrastructure to promote the development of forest resources that are necessary to meet increasing demand. Despite the apparent availability of forests in the Russian Federation, their industrial development is not always economically viable. Most of the processing capacity is concentrated in the European part of the Russian Federation, but the main stocks of forest are beyond the Urals where the wood processing industry is underdeveloped, except for individual regions, and costs of transport are high and increasing.

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[10] A country- and organization-led initiative held in support of UNFF.

[11] Report of the meeting is available at *www.maf.govt.nz/mafnet/unff-planted-forestry-meeting/.*

6. Forest health and productivity

Air pollution

The *Guidelines* stated that:

> "if damage to forests from air pollution is a significant problem in your country, please provide information on recent national strategies or programmes to minimize damaging air pollution. Please indicate if your country is involved in international cooperation efforts aimed at strengthening scientific knowledge, increasing information access or reducing the impacts of long-range air pollution on forests, as well as your views on the role of enhanced cooperation at the regional and international levels to facilitate such work."

The reports from those parts of the world where this is a significant issue recognized that industrial emissions were the fundamental cause of damage to forests from air pollution. Air pollution was an issue of high visibility and concern when IPF met in the 1990s, and several proposals for action called for countries to adopt preventive measures to reduce air pollution, and for the international community to develop or continue to implement both national and international programmes for monitoring air pollution, and its effects on forests. The relevant IPF proposals for action have largely been implemented in some regions. For example, in Europe, where the problem has been particularly acute, measures have been taken to reduce industrial emissions. Damage to forests has been significantly reduced, although air pollution remains a serious issue in some countries (for example, it is an important problem in Ukraine) and in particular areas subject to industrial emissions. There is a continuing need to monitor forest health and there is also concern about the potential long-term consequences of air pollution for the acidity of forest soils. The Czech Republic referred to the use of large-scale liming programmes to help to neutralize these impacts on soils.

International agreements include the International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests operating under the Convention on Long-Range Transboundary Air Pollution of UNECE; the EU Forest Focus regulation; and the Canada–United States Air Quality Agreement.

Another example of international action is collaborative research between the Republic of Korea and China to monitor long-term impacts of migratory air pollution in North-East Asia.

Other major threats

Although IPF and IFF concentrated on air pollution impacts, forest health and productivity are also affected by other major threats, including biotic

factors (such as insects, diseases and invasive species) and abiotic factors (such as fires and storms).

The impact of biotic factors was illustrated by the United States, where nearly 30 million hectares of forested land were affected by insect and disease infestations in 1998. Invasive species are having major impacts on natural biological diversity and are receiving renewed attention from forest scientists and forest managers. One specific example of a threat is provided by sudden oak death (*Phytophthera ramorum*), which has caused widespread mortality of several species of oak in California and the Pacific North-west, and could spread eastward to cause major ecological and economic impacts on a continental scale. Another example, from Lebanon, is a new pest (*Cephalcia tannourinensis*) that is attacking cedar forests. A third example of such damage, given in the report from El Salvador, is the devastating damage caused by the pine weevil, *Dendroctonus frontalis*; the Governments of Guatemala, Belize, Honduras, El Salvador, Nicaragua, Costa Rica and Panama are working together, with assistance from FAO, in a joint effort to reduce and to control infestation. Some countries highlighted the significance of growth in international trade, with its impact in terms of possible new introductions of potentially damaging pest and disease organisms. FAO is providing direct technical assistance to countries to help solve forest pest problems and is also compiling data for a global information system on insect pest and disease outbreaks and their impact on forests.

In relation to abiotic factors, an example of storm damage was given in the report from Sweden, where storms in late 1999 caused comprehensive damage to over 5 million cubic metres of timber. In the United States, fire management has become a major focus of forest policy, and in 2002 federal agencies spent US$ 1.6 billion fighting forest fires. Several reports noted that raising public awareness about the harmful effects of fires is a critical factor in mobilizing rural communities to manage fires, but added that funding is often inadequate for these campaigns or for supporting practical fire management by rural communities. The joint CPF report referred to initiatives that are promoting the participation of local communities in fire management and forest fire prevention and establishing joint regional wildland fire networks for international collaboration between forest fire experts.

Forest health and productivity depend upon a complex interaction of different factors, including climatic stress as well as pests, diseases and air pollution. A number of countries noted the importance of adopting appropriate silvicultural principles to achieve more stable forests that are less sensitive to stress factors. Climate change itself was also identified as a potential threat; UNEP is assessing the vulnerability of boreal forests to climate change in the Barents Sea system.

7. Economic aspects of forests

Valuation of forest goods and services

The *Guidelines* invited countries to provide information on:

> "the valuation of forest goods and services (this may include, among other things, the development and use of new valuation methodologies, valuation of a wider range of goods and services, and policy decisions that reflect a more comprehensive assessment of forest values)".

Forests provide numerous goods and services, both market and non-market, which have significant economic importance, and their accurate valuation is essential for sustainable resource management. Nevertheless, formal statistics relating to the role of forests in the economy often underestimate the full value of forest goods and services. Examples of these underestimates are given in reports from Burundi (where forest products account for only 2 per cent of official GDP despite the fact that wood is the source of over 95 per cent of energy needs) and Senegal (where official statistics state that the contribution of the forest sector to the national economy is around 1 per cent, but according to other surveys forest resources affect the survival of 54 per cent of the most disadvantaged people in the country). Underestimates such as these have serious consequences and can prevent the potential contribution of forest-related outputs from being fully reflected in national policies, such as PRSPs.

One reason for failing to recognize the full value of forest goods and services is lack of data. Where forest-related economic activity, such as the collection of firewood and the use of NTFPs, takes place in the informal sector, relevant information is not collected. Another problem is that of valuing non-market outputs, which include the environmental benefits of forests. Techniques for valuing non-market outputs, such as contingent valuation, hedonic pricing and the travel-cost methods, have limitations, and it can be difficult to make practical use of the results. Nevertheless, there are examples of progress. Austria referred to the Integrated Environmental and Economic Accounting application for forests developed by a EUROSTAT Task Force on Forest Accounting and to a subsequent project assessing its applicability in Austria. Japan explained that a valuation of multiple forest functions has been carried out by the Science Council of Japan. Recognizing methodological limitations, it put the following values (at ¥ 1,000 = US$ 9) on the country's forests: absorbing carbon dioxide (replacement cost), US$ 11 billion/year; substituting for fossil fuel (replacement cost), US$ 2 billion/year; preventing surface erosion (replacement cost), US$ 254 billion/year; preventing loss of topsoil (replacement cost), US$ 76 billion/year; ameliorating flooding (replacement cost), US$ 58 billion/year; conserving headwater resources (replacement cost), US$ 79 billion/year; purifying water (replacement cost), US$ 132 billion/year; and health and recreation household expenditures

(travel cost), US$ 20 billion/year. Spain also outlined a methodology that takes account of productive, recreational and environmental aspects of forests to provide a comprehensive assessment of their economic value and that is used as a planning tool.

Recognition of the value of non-market outputs by Governments is essentially a political decision, influenced by socio-economic changes. For example, in the Republic of Korea it is understood that the recreational value of forests will increase with changes in working patterns (such as the introduction of a five-day week) and urbanization. Mauritius has recognized that the increasing demand for recreation and ecotourism activities, and the importance of forests as water catchment areas, will shift emphasis towards these outputs, rather than timber production. Recent research in Croatia confirmed the importance to the tourist industry of forests near the Mediterranean, and found that tourists are willing to pay higher accommodation prices within forest landscapes.

Another approach is to find ways to bring these outputs into the market economy, through payments for environmental services, such as water supply, or the development of ecotourism businesses, where people pay to see natural forest and associated wildlife. El Salvador noted some of the practical difficulties in applying the principles of payment for environmental services and described a pilot project relating to a water catchment. Japan gave an example of how trust funds can be used to finance SFM: the city of Toyota gets over 70 per cent of its water from the Yahagi River and collects a water service surcharge in order to subsidize forest management costs in the headwaters of the river. A number of reports also referred to the potential incentives for absorbing carbon that are available under mechanisms established by the Kyoto Protocol to the United Nations Framework Convention on Climate Change.

It needs to be recognized, however, that the practicability of applying such market-based approaches depends upon particular circumstances. For example, the scope for developing ecotourism businesses depends upon the inherent attractiveness of the area as a tourist destination. In general, charging for environmental services is only possible where people can be excluded, or prevented from enjoying the benefit, if they do not pay; this may prove to be impossible, either for practical reasons or for legal reasons (for instance, where people have a legal right of access to forests for recreation).

Market data and information on forest products

The *Guidelines* invited countries to provide information on:

> "the amount, scope, or quality of market data and information for wood and non-wood forest products and their substitutes".

While some countries have well-developed systems for gathering and disseminating market data, others explained that they have limited capac-

ity for such work. Where this information is available, it is usually derived from a number of sources, including trade and industry statistics (such as information from customs authorities), specific market surveys, forest inventories, routine returns (for example, on wood harvesting and hunting) and agricultural statistics. In general, information about NTFPs is less comprehensive or reliable than information relating to wood and wood products. Furthermore, data are often less reliable in relation to small-scale transactions, particularly in the informal economy, and expert assessments or surveys are needed to estimate the size and value of these transactions. There are also data limitations that arise from constraints imposed for reasons of commercial confidentiality; from the incentive to misrepresent forest revenues in official returns; and from the difficulty of disaggregating data relating to multinational companies in the forest products industry.

Market data are made available through official statistics and through special publications, including those sponsored by international organizations (such as FAO, ITTO and ECE), Governments, forest owners' associations and commercial organizations. FAO has published a field manual for market analysis and development to enhance community-based enterprises. FAO also publishes a *Yearbook of Forest Products* with statistical data on basic forest products, including production and trade, for all countries and territories of the world. It is important that relevant information is accessible to those who need it. Thus, for example, Pakistan highlighted the need to make market information available to tree farmers; and Romania is establishing a Forest Sector Business Information Centre to provide information on markets for wood and non-wood forest products, on promotion opportunities and on relevant technological developments.

Using economic and policy instruments to facilitate progress towards SFM

The *Guidelines* invited countries to provide information on the:

> "use of economic and policy instruments to facilitate progress towards sustainable forest management (these may include improved tax policies and forest revenue collection systems)".

The rationale for specific economic and policy instruments in particular countries depends upon priorities for SFM, and as priorities change instruments may be applied differently. For example, in Norway, support has shifted away from incentives for afforestation towards encouraging environmental measures and promoting the use of wood as an environmentally friendly material. In some countries, these priorities are determined at the local or regional level, and instruments are adjusted accordingly.

Different instruments may be required to promote SFM in publicly owned, as opposed to private, forests. In publicly owned forests, the focus is on rent capture and subsequent allocation of financial surpluses generated by forests. Inadequate rent capture can act as a perverse incentive, encouraging

overexploitation, and cause a loss in potential government revenues. A number of countries, including Cambodia, Canada, the Democratic Republic of the Congo, Madagascar, Malawi, Mauritius, Peru, the Philippines, the Russian Federation and Senegal, explained how they have developed (or are developing) market-based systems for establishing rates of payment, tightening up on the collection of revenues and taking account of environmental considerations in both the setting of payments and the application of contractual conditions to concessions. Policies about how much revenue should be reinvested in SFM and how much should be distributed to public authorities at the national or local level vary, and change over time, reflecting political priorities. The Russian Federation noted that reductions in forest revenues are making it harder to invest in SFM. Public ownership of forests can itself be an explicit instrument used to secure desired outputs, and in these circumstances it may be accepted that public forests do not generate a financial surplus but require subsidy.

Instruments used to promote SFM in private forests include regulation; financial incentives, such as grants and low-interest loans; tax allowances; and provision of services (for instance, aerial liming, fertilizing and fire control in the Czech Republic, and management for environmental purposes in Greece). These instruments may be interrelated, for example where financial incentives and tax allowances are conditional upon agreeing management plans with forest authorities and meeting prescribed norms in relation to SFM. While some countries offer forest owners financial compensation for income forgone in meeting the requirements of SFM, other countries regard at least some of those requirements as legal obligations that owners must meet without compensation. The extent to which owners should be expected to internalize such costs is a political decision. For example, the Polish forest policy provides for a system of paying owners for non-market environmental benefits, and there is tax relief for certain national heritage forests. Some countries noted that forest owners are increasing political pressure for such payments because they are finding it difficult to meet the costs of achieving higher environmental standards against a background of falling wood prices.

An important point emerging from the reports is that policies aimed at promoting afforestation must take account of the value of agricultural land, which may be inflated by agricultural subsidies. This underlines the importance of effective cross-sectoral policy integration. In developing its forest bond scheme, El Salvador recognized the importance of land for agriculture and so provided incentives promoting afforestation through agroforestry systems that combined the growing of coffee with the establishment of trees for timber production.

8. Promoting public participation

The *Guidelines* invited countries to provide information on:

> "mechanisms or initiatives to facilitate stakeholder participation, including indigenous and local communities, in forest sector planning, decision-making and/or forest management".

The *Guidelines* also invited countries to provide information on:

> "integrating local and indigenous communities in SFM programmes, particularly as regards . . . participation in decision-making regarding the management of forests".

Action has been taken to promote stakeholder participation at various levels: in policymaking; through preparation of codes of practice; through local consultation on forest management decisions in respect of publicly owned forests; and through mechanisms (such as certification) that have increased consultation over management of privately owned forests. Stakeholder groups include forest owners, the forest industry, forestry employee organizations, trade unions, hunters, tourist industries, environmental organizations, and local and indigenous peoples—and the number of these groups has tended to grow over time. Effective public participation provides a valuable way of securing input from these stakeholders, giving them the opportunity to identify themselves with the issues, enhancing mutual understanding and adapting forest policies to changing opinions about how forests should be used. Another benefit, noted by the Democratic Republic of the Congo, is that participation of NGOs can help secure good governance because NGO interests may be different from those of the administration or the private sector. The Democratic Republic of the Congo also highlighted the fact that forests are essential for the survival of local populations, and that forest loss can represent a catastrophe for them.

Participation in forest policy development

A number of countries explained that they have constitutional mechanisms for public participation that apply to all areas of policy. These include, for example, the role of parliamentary bodies in enacting legislation and approving government policies, as well as the publication by Governments of consultation documents. Several reports referred to international agreements such as the UN Convention on Civil and Political Rights and the ILO Convention concerning Indigerous and Tribal Peoples in Independent Countries (Convention No. 169). With specific reference to forests, some countries (such as Norway) have a long tradition of stakeholder participation, and in Switzerland the law identifies circumstances in which public consultation on regional forest plans is required.

Mechanisms for participation in forest policy development vary. National forums for consultation include Finland's Future Forum on Forests

(which is multisectoral and multidisciplinary and looks ahead over the next 10-20 years); South Africa's National Forests Advisory Council (with 19 members representing community leaders, traditional healers, labour organizations, the forestry industry and conservation bodies); Spain's National Council of Forests (with representatives from different levels of government and other stakeholder groups); and the Roundtable on Sustainable Forests of the United States (which includes federal, state, tribal, environmental and business interests).

As suggested in a number of reports, further efforts are needed to assist stakeholder groups that have limited capacity or opportunity to participate in policymaking. Challenges include low levels of participation, difficulties in involving large numbers of very small-scale private forest owners and other weakly articulated interest groups, and inadequate representation from grass-roots organizations. In Pakistan, professional anthropologists are helping in the task of securing greater involvement of local communities in the forestry planning process, including nfp development. Colombia has developed mechanisms to take account of the views of interested groups at different levels during the nfp formulation process, but it remains difficult to consolidate their views in the absence of procedures on stakeholder group representation. Serbia and Montenegro explained that it can be difficult to motivate private forest owners to create associations that represent their interests and, in this context, Hungary emphasized the importance of using contact points (such as local government notaries) to transmit information and of establishing communication with owners. MCPFE noted that the more powerful stakeholders are often over-represented and that balanced representation is an important precondition for successful public participation in the nfp process.

Participation in forest management

Many country reports revealed that much has been done to increase public participation in local forest management decisions.

Some examples of action in Africa follow.

- Recent legislation in Benin lays particular stress on the integration of the neighbouring populations in the management of forest ecosystems.
- In Burkina Faso, the process of decentralization has allowed local communities to play an increasingly significant role, and to have responsibility for the planning and management of land and natural resources, afforestation, delineation of land zoned for agriculture and environmental protection, control of bush fires, control of timber harvesting and pollution prevention. There are also about 300 Village Forest Management Groups, with over 11,000 members, involving local populations in forest management on a voluntary basis.

- Kenya's forest policy emphasizes the involvement of stakeholders in natural resource management, the formation of forest community associations, leasing of commercial plantations to interested groups in order to raise productivity, and forming forest conservation committees to involve local stakeholders in decision-making on forestry issues.
- In Madagascar, the State has transferred part of its competence to village associations and communities. Contracts for the transfer of management give responsibility for sustainable management of forests to local stakeholders; the contract transfers competence for managing State-owned forests, but does not transfer property rights. Following these transfers, forest degradation has reduced with less clearing of forest, less unauthorized felling and fewer wildfires.
- The forestry department in Malawi has recently devolved some of its key responsibilities to District Assemblies and local communities, which are legally incorporated as key players in SFM through village natural resources management committees. A major challenge is the large number of these committees, compared with the low capacity of Government and NGO extension services to support the participatory forest management planning process. Malawi is building the capacity of field forestry extension staff and communities in order to help match community needs with forest resource use.
- Action is being taken to give local communities greater responsibilities for forest management in Senegal. Constraints include lack of technical expertise; insufficient transfer to local communities of the resources necessary to fulfil their responsibilities; the risk that certain local councillors use their position for personal gain; resistance from central bodies to the transfer of competencies to the local communities; and competition with sectors for resources at the local level. Nevertheless, this decentralization has had positive effects in the development of forest resources, making communities more aware of the full value of these resources and making it easier to manage conflicts.
- In the Sudan, management plans for some forests have integrated local communities in SFM.

Examples of action in Asia included:

- Some 300-400 community forestry initiatives in Cambodia. Local communities that participate in the community forestry projects may enter into agreements with the Government that offer the right to manage and use forest land in or near their villages, for their own benefit, for up to 15 years, within the framework of approved management plans. The *Code of Practice for Forest Harvesting* makes provision for local communities to participate in decision-making with regard to forest concessions;

- Involvement of village communities and voluntary agencies in forest management through India's Joint Forest Management programme, which has now been implemented in 61,000 villages, with 85,000 committees, covering more than 17 million hectares of forests. The social functions of forests are very important. Forest fringe villages, where forests are inseparably linked with livelihoods, comprise 28 per cent of all villages in India. The supply of fuelwood, fodder and small timber, such as house building material, for those living in and around the forests is treated as a first charge on forest produce;
- The opening up of national forests to allow the public to practise forest tending and to establish recreational forests in the Republic of Korea;
- Participatory forest programmes in Nepal, aimed at releasing the energy and resources of individuals through Forest Users Groups and Community Development Groups. Local people are allowed to use national forests to fulfil their basic livelihood needs. Through its community forestry programme, the Government is seeking to enhance capacity and promote democratization in users' groups because, when decision-making power is given to users who depend on the forestry resources in question, the decisions made have a good chance of being implemented;
- A recent Forest Ordinance, in Pakistan, that provides a legal basis for the involvement of local communities in the management of the forest areas. Joint Forest Management has devolved decision-making processes to the local level, but much needs to be done to bring indigenous people into the national planning process.

Examples of action in Latin America included:

- A project in Guatemala to strengthen community forests through building capacity and developing technical expertise;
- Extension of a pilot project aimed at promoting community-based SFM to all forest regions of Mexico. Criteria for the selection of the communities are their social condition, their level of organization and experience in forest management and the proportion of indigenous people (the pilot project involved about 1.7 million indigenous people);
- Encouraging the participation of rural settlers in the management of the forests in Venezuela through an integrated community forest management programme. Legislation provides for consultation with indigenous communities and for the official use of indigenous languages and political representation of indigenous people at the national and local levels.

Examples of action in other countries included:

- Direct participation by New Zealand Maori in decision-making regarding the management of forests on Maori freehold land and consultation over management issues relating to leased land in accordance with the lease agreement. More generally, forestry activities need a resource consent from local government, and stakeholder participation may be required under this consent application process;
- Legal guarantees secure public participation in forest management planning of public forests in the United States. There are fewer direct opportunities for public involvement in the management of private forest lands, although compliance with soil and water protection regulations is subject to public scrutiny and major private forest landowners are responsive to public comment. Federal agencies have begun entering into land stewardship contracts with community groups and tribes that provide land management services.

FAO is helping to build capacity for this work in six African countries and (with IUCN) in seven countries in Central and Eastern Europe; it is also helping community-based forest enterprise development through a number of projects in Africa, Asia and Latin America. Referring to its international development cooperation activities, the report from Finland noted, however, that implementation of joint forest management often faces constraints caused by inappropriate legal frameworks, reluctance of government officials to relinquish control and conflicts over sharing of benefits.

Representatives of the Children and Youth major group highlighted the value of increased public consultation over forest plans and stressed the importance of taking account of the needs of youth in urban and community forests, for example by providing safe play areas and organizing educational days.

Several reports outlined other ways in which countries are taking action to strengthen participation by raising public interest in forests. Ireland's Tree Council, which consists of almost 50 government and voluntary organizations, promotes a greater tree and woodland culture through major annual events, and educational material, including an outdoor classroom for young people to learn about forests. In Japan, a "Forest Nation Campaign", involving many cultural leaders, is re-examining the relationships of individual citizens to forests, together with traditional skills and wisdom concerning forests; "100 Masters of the Forest", including lumberjacks, hunters and charcoal burners, were selected as role models and, as part of a related educational programme (funded by NGOs and the private sector), high school students were given opportunities to meet these Masters. Lebanon highlighted the role of local NGOs, such as the "Friends of the Cedar of God", which is promoting personal sponsorship of seedlings and school tree nurseries.

9. Social and cultural aspects of forests

Strengthening the role of women

The *Guidelines* invited countries to provide information on:

> "strengthening the role of women in SFM, including through capacity-building and greater participation in community-based forest management".

There are many countries where rural women are the major caretakers and users of forests, and where forest-related activities, including firewood collection, demand a great deal of women's time and labour. On the other hand, women's knowledge of forest resources has often been ignored or undermined, owing to lack of voice, unfavourable land-tenure structures, restrictive cultural practices, low levels of education and limited access to credit. For example, in Lesotho, women head approximately 30 per cent of all households and undertake a substantial proportion of agricultural and forestry activities, coping with the difficulties posed by a seriously degraded environment; nevertheless, many women in Lesotho only have access to land through user rights granted to their husbands and they have to circumvent this restriction through such strategies as sharecropping and illegal leasing.

In a number of countries, the constitution, or other legislation, guarantees equal rights to men and women and, in some cases, specifies gender representation on public bodies. There are also wider national initiatives promoting equal opportunities for women; for example, in Luxembourg the "gender mainstreaming" strategy supports social measures to create true equal opportunity rather than simply relying upon legal equality. Action to strengthen the role of women in SFM has included the development of gender-sensitive community forestry programmes, which have achieved high levels of participation by women and have generated lessons for other projects. An example of how this is being driven forward is given by Finland, where gender equality is an important goal in international development policy, and all forestry cooperation funded with ODA is geared to address gender issues.

Countries also reported on policies and initiatives to strengthen the role of women in their forest sector and end the view that forestry is a male profession. For example, there is deliberate posting of women into decision-making roles at all levels in the forest administration in Malawi. Reports from Australia, Austria, Norway, Slovakia and the United States all referred to associations of women foresters that are working to strengthen the influence of women in the forest sector. Guatemala gave an example of a women's association that is a development partnership promoting sustainable management of natural resources (mainly forests) over an area of 600 hectares. In the Islamic Republic of Iran, where women have equal opportunities for higher education and employment, there are also women's coopera-

tives in the forest sector, supported by training workshops to enhance their skills and capacity. India's guidelines for the Joint Forest Management programme provide that 50 per cent of committee members should be women; more than 8.3 million women are now participating in the management of forests at the village level through this programme. Women's participation in Joint Forest Management committees is also encouraged in Pakistan. Venezuela has a Development Bank for Women offering loans for activities that include processing of forest products.

There are also examples of research regarding gender and forestry. In Norway, research is exploring differences in how men and women behave as active managers of their forest properties. Reports from Canada and the United Kingdom also referred to recent research on the subject, with the United Kingdom research identifying parallels, in terms of women's career patterns, between forestry and the heavy engineering and construction industries.

The voluntary reports included statistics about the proportion of women engaged in forestry. In Ukraine, women accounted for about 50 per cent of those employed in forest research and education; in Uruguay, for 44 per cent of professional staff in the Directorate General for forestry; in Finland, for 40 per cent for forest owners, 20 per cent of professional foresters and 50 per cent of graduating foresters; in Guyana, the percentages of women graduating from university in forestry in 2001 were 57 per cent with diplomas and 37 per cent with degrees; in the United States, 33 per cent of general forest graduates, 20-30 per cent of forestry PhDs and 12 per cent of professional foresters were women; in the Russian Federation, 25 per cent of heads and experts in forestry were women; in Norway, 20 per cent of forest owners and 10 per cent of trainees in the Forest Extension Institute were women; in Canada, female employment in the forest sector was 16 per cent, compared with an average of 45 per cent in all occupations; in the Republic of Korea, the proportion of new female recruits to the forest service were increased from 7 per cent (1993) to 32 per cent (2003); in Serbia and Montenegro, 18 per cent of employees in the forest service were women; in Japan, 16 per cent of forest workers were women (while most were active in tree-planting work, some were operating high-performance machinery); and in Switzerland, 1.7 per cent of the forest workforce were women.

Representatives of women's groups highlighted the Second World Wide Symposium "Gender and Forestry: Challenges to Sustainable Livelihoods and Forestry Management",[12] where the focus was on women's and men's access to forest resources, as a means of improving livelihoods. A central issue was to ensure a balance between economic development, social development, and natural forest resource protection as independent and naturally reinforcing and cross-cutting components of sustainable de-

[12] Held from 1 to 10 August 2004 in Kilimanjaro, United Republic of Tanzania, as an organization-led initiative in support of UNFF.

velopment. The symposium also attempted to promote new systems that could empower women forest-dwellers to participate effectively in processes of good governance in the forestry industry.

Customary and traditional rights and privileges of indigenous and local communities

The *Guidelines* invited countries to provide information on:

> "integrating local and indigenous communities in SFM programmes, particularly as regards recognition and respect of the customary and traditional rights and privileges of indigenous and local communities . . ."

Community involvement in forest management is strengthened where there is a recognition of those rights and privileges, so that indigenous and local communities can make decisions on the management of forest resources and the sharing of benefits. There are, however, considerable differences in approach according to local circumstances and cultural backgrounds.

Two examples reported from Africa were:

- The requirement, in the Forest Code of the Democratic Republic of the Congo, for the rights of local communities to be investigated as a prerequisite before issuing forest concessions; prior consultation with neighbouring populations is also required. The report also explained that, traditionally, local populations consider that the forests belong to them, as an inheritance from their ancestors, and therefore local communities may acquire free forest concessions on their ancestral land;
- Recognition, in programmes for SFM in South Africa, of customary and traditional rights and privileges of indigenous and local communities; legislation exempts communities with customary and traditional rights from regulatory controls over State forests.

Examples reported from Asia were:

- A new forestry law in Cambodia secures customary user rights for local communities living within or near permanent forest reserves to collect wood and NTFPs for their household consumption;
- In Thailand, the constitution recognizes the rights of traditional communities in relation to natural resources management, and this has led to initiatives promoting community participation in forest management.

Examples reported from Latin America were:

- In Guyana, concessions are granted to communities in order to allow them to benefit from their hereditary rights; in addition, special consideration is given to indigenous communities in the forest land allocation process;

- In Peru, indigenous communities do not need permission to make use of natural resources for non-commercial purposes within their territories;
- Legislation in Venezuela gives indigenous communities rights to manage forests in territories traditionally occupied by them. The report also referred to the need to strengthen the organization of those communities, to clarify community rights and to demarcate the boundaries of their territories.

Examples reported from other countries were:

- Australian law recognizes the rights and interests of indigenous Australians according to their own traditional laws and customs. The Australian Forestry Standard includes requirements to protect cultural sites and to allow indigenous people to undertake traditional activities;
- In Canada, recent developments include a memorandum of understanding in Saskatchewan; a land claims and self-government agreement in the Northwest Territories; and an Agreement in Principle to establish a business relationship with the Kaska First Nations in Yukon;
- The forest law in Cyprus offers privileges and rights to inhabitants of certain villages close to forests, allowing them to gather fuelwood according to particular prescriptions;
- In New Zealand, there is a Maori Land Court with specified jurisdiction and powers in relation to Maori customary land and Maori freehold land. In addition, there is a Tribunal responsible for determining claims about land-related (and other) matters arising from the principles of the Treaty of Waitangi (1840), which is the founding document of New Zealand;
- In the Russian Federation, parts of the State forest estate have been transferred to indigenous peoples for traditional uses and wildlife management;
- Traditional rights of forest villagers in Turkey have long been recognized in the forest law, and recent legislative amendments have been made to guarantee those rights;
- In recent years, federally recognized American Indian and Alaska Native tribes in the United States have achieved a high degree of autonomy and self-determination in the management of their forests.

Other reports explain in more general terms that traditional user rights, such as access for recreation, the picking of wild berries and mushrooms and collection of deadwood, are recognized by law. Some reports also refer to less tangible aspects of customary and traditional rights. For example, in

Benin sacred forests have a special importance in providing spiritual safeguards for people's lives; forests also occupy a central place in the cultural life of some of the peoples in Senegal.

Securing land tenure for local and indigenous communities

The *Guidelines* invited countries to provide information on:

> "integrating local and indigenous communities in SFM programmes, particularly as regards . . . the attainment of secure land tenure arrangements . . . "

Land tenure arrangements reflect historical factors as well as recent developments. Many countries noted their long and successful tradition of private ownership of forests. However, a number of countries, including Cyprus, Poland and Serbia and Montenegro, highlighted the fact that the average size of a forest ownership unit is very small and that this makes SFM more difficult to achieve. The report from Poland added that owners are obliged to practise SFM, but have the option of entrusting management to State foresters.

The reports reflected different approaches to community integration. Cambodia has arrangements to transfer State land to poor people for residential and family farming purposes, but the area for social land concessions is not yet defined and there are currently serious problems of land-grabbing and encroachment by different individuals and groups, including authorities and armed forces. Guatemala is using community forest concessions to help local people benefit from forests. In Hungary, the National Land Fund works with the State Forest Service and the Hungarian Forestry Association to secure land tenure arrangements for some 3,000 communities.

In some countries, land rights are characterized by the coexistence of the traditional regime with modern written codes. For example, in Benin, the law grants user rights to give local people access to deadwood, food, medicinal products and grazing, subject to the requirements of forest management plans; nevertheless, despite the influence of the customary rules, there are frequent local conflicts over land. In Lesotho, land traditionally belongs to the people as a whole and is held by the King on behalf of the nation, and village councils allocate land to individuals; forest legislation grants ownership of trees to those who plant them and the forestry ministry may grant ownership of trees and forests for a period of time, subject to conditions relating to SFM. Land reform in South Africa has provided for the restitution of land rights that were dispossessed during the apartheid era and the recognition of informal but, as yet, unrecorded rights to land; the forestry programme seeks to incorporate the new landowners into participatory forestry projects, and legal entities (such as trusts) have been established to give legal status to traditional structures.

Capacity-building and technology transfer for sustainable forest management directed at indigenous and local communities

The *Guidelines* invited countries to provide information on:

> "integrating local and indigenous communities in SFM programmes, particularly as regards . . . capacity-building and technology transfer for SFM directed at indigenous and local communities".

Capacity-building and technology transfer are achieved through such mechanisms as forest-related education and training, extension work, workshops, publications, demonstration sites and study tours. NGOs frequently play an important role, alongside local forestry officers. Forest owners' associations and community forestry bodies are often used as a vehicle to facilitate capacity-building and technology transfer. New Zealand explained its comprehensive approach to forest-related education and training, which is regarded as the primary tool for technology transfer, and added that there are also specific programmes to help indigenous people practise SFM. Venezuela highlighted the more general importance of strengthening general education for indigenous peoples.

In Guatemala, capacity-building is a central part of the community forestry strategy. Its objectives include helping communities to strengthen their organization, their ability to make joint decisions and the interaction and distribution of power between communities and other interest groups. The programme also provides technical and financial assistance to help communities understand, plan, execute and evaluate actions required for SFM. In Greece, incentives are available (under the EU Rural Development Regulation) for local cooperatives of forest workers to modernize their equipment. Guyana offers scholarships to help Amerindian communities acquire training and gain forestry certificates; in addition, there are outreach programmes for indigenous communities and assistance is provided in forest inventory work and the preparation of management plans and in relation to market information and price negotiation. Mexico highlighted the importance, for community forest management, of developing social capital and technical and commercial relationships between communities.

Fair and equitable sharing of the benefits arising from the utilization of forest genetic resources

The *Guidelines* invited countries to provide information on:

> "promoting the fair and equitable sharing of the benefits arising from the utilization of forest genetic resources and addressing the issue of intellectual property rights, including the identification of the origins of forest genetic resources, taking into account work undertaken by the Convention on Biological Diversity and other international agreements".

Most reports that addressed this issue outlined the development of domestic policy and legislation in terms of such international agreements as the CBD and the voluntary Bonn Guidelines on access to genetic resources and fair and equitable sharing of benefits arising out of their utilization. Some explained that ex situ and in situ conservation of forest genetic resources may require different approaches.

Venezuela explained that indigenous organizations have an active role in discussions and the drafting of laws relating to the rights of indigenous villages and local communities with regard to access to the genetic resources and the equitable distribution of benefits. Peru referred to relevant provisions within the common regime on intellectual property of the Andean Community of Nations.

Some countries pointed out that private forest owners have legal rights to benefit from the use of forest genetic resources and associated intellectual property rights. Reference was also made to the European Forest Genetic Resources Programme and to legislation concerning forest reproductive materials.

10. Traditional forest-related knowledge

Inventorying, cataloguing and applying traditional forest-related knowledge

The *Guidelines* invited countries to provide information on:

> "inventorying, cataloguing and applying traditional forest-related knowledge for sustainable forest management and promoting research on TRFK with the involvement of the knowledge holders".

Many inventories and catalogues have been compiled by scientific institutions and by individuals with a particular interest in this subject. Ethnographic studies on NTFPs have identified previously unknown pharmacological uses of forest products. India described the documentation of traditional knowledge and the preparation of community biodiversity registers at the village level; these registers are used to help to establish claims over knowledge and use of biodiversity resources. In Thailand, over a thousand published and unpublished documents have been reviewed in a recent study; there are also four literary botanical gardens, which collect and interpret trees referred to in Thai novels and legends. Venezuela has inventories of plants and animals used by different ethnic groups, including lists of Amazonian plants for medicinal and magical use, nutritional plants, plants used as food containers, fruits, pigments, oils, resins and fibres.

Reports noted that there is much, potentially very beneficial, TRFK that has not been captured. In Cambodia, where indigenous and local communities have historically depended on forest resources, there has been little research on indigenous forest knowledge. TRFK in the Republic of Korea is rapidly being lost through industrialization and urbanization, although such knowledge can still be found where forests are managed by temples and by observing small-scale gathering of NTFPs. UNEP is supporting a project, Biodiversity Conservation and Integration of Traditional Knowledge on Medicinal Plants in National Primary Health Care Policy in Central America and the Caribbean, the aim of which is to integrate the conservation and management of medicinal plants with rational use of traditional remedies in primary health care.

Examples of applying TRFK to SFM include the use of fire as a management tool and techniques for improving the utilization and conservation of soil and water resources. In China, valuable references for SFM are found in systematic summaries of traditional knowledge from different regions that are published in articles on community and participatory forestry and on Chinese traditional medicine. Senegal explained that woodworking craftsmen take care only to cut trees in accordance with their own codes of practice and that local populations have detailed knowledge of the multiple uses of different trees, including fruit production; resentment is engendered

when the forest authorities give permission for the trees to be felled in violation of those traditional codes.

Some reports noted that indigenous peoples may be reluctant to share traditional knowledge with others. Reasons for this reluctance include the concern that harm may come from misuse, the fear that the knowledge will be corrupted when used by individuals not immersed in the associated culture and the potential loss of intellectual property rights. In some countries, contemporary interest in gathering NTFPs has spawned large-scale commercial ventures that raise questions of ecological, economic and social sustainability.

Forest management by indigenous peoples may be based on a combination of Western science and traditional knowledge. In this context, a number of European countries pointed out that their long tradition of scientifically based forest management has gradually incorporated TRFK, amalgamating it with technical knowledge to develop sound approaches to silviculture and other aspects of SFM. The report from Croatia suggested that forest-related educational curricula should recognize the importance of such traditional knowledge.

Supporting the application of intellectual property rights and/or other protection regimes for traditional forest-related knowledge, and the fair and equitable sharing of benefits

The *Guidelines* invited countries to provide information on:

> "supporting the application of intellectual property rights and/or other protection regimes for traditional forest-related knowledge, and the fair and equitable sharing of benefits arising from the use of traditional forest-related knowledge, innovations and practices".

Several countries referred to their general legislative frameworks for the protection of intellectual property. Some also explained more detailed arrangements that apply with respect to traditional knowledge. In India, patent applications must disclose the source of origin of biological material used in the invention, and an electronic database of documented traditional knowledge relating to the use of medicinal and other plants is under preparation; this database could be used by patent offices throughout the world for searches to prevent bio-piracy. Malaysia noted that existing patent laws cannot necessarily provide adequate protection for indigenous knowledge and that a specialized, sui generis, system may better accommodate the specific characteristics of indigenous knowledge and prevent surreptitious use of this knowledge by bio-prospectors. In New Zealand, Matauranga Maori (which means knowledge and understanding founded on custom, culture and protocol) asserts group ownership of intellectual property rights in knowledge or the expression of thought that is passed down from one generation to another. A Maori claim relating to this knowledge is currently under consideration. The Government is working with Maori experts to

develop a framework for the retention and promotion of traditional knowledge, with the intellectual property remaining as the property of the particular local Maori community. Formal recognition of traditional areas in the Philippines, where 12 million people (belonging to 110 major ethnolinguistic groups) claim about 5 million hectares of forest, includes the protection of and respect for indigenous knowledge systems and practices.

The protection of TRFK, and the fair and equitable sharing of benefits arising from the use of such knowledge, are under active discussion within various international forums. These include the World Intellectual Property Organization's Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore as well as the CBD. A CBD working group is addressing the implementation of article 8 (*j*) of the Convention, which deals with this matter. TRFK is also a component of the CBD expanded programme of work on forest biological diversity, adopted by the COP in 2002. In 2004, the COP adopted a number of decisions relating to the Akwé: Kon voluntary guidelines[13] and to the consideration of sui generis systems for the protection of traditional knowledge, innovations and practices.

[13] For the conduct of cultural, environmental and social impact assessments regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities.

11. Forest-related scientific knowledge

Dissemination of scientific knowledge and strengthening capacity

The *Guidelines* invited countries to provide information on:

> "disseminating scientific knowledge to all interested parties, including through new and innovative ways, and strengthening capacity and mobilizing funding for national and regional research institutions and networks".

Action to disseminate scientific knowledge includes professional education and training (at all levels and at all stages in careers); meetings (such as conferences, seminars and workshops); the use of printed material (including journals, research bulletins, manuals, textbooks, yearbooks, information leaflets and magazines); and extension work. All these traditional methods of dissemination remain important for students, forest and environment professionals, private and community forest owners and the wider interested public. In some countries, call centres offer an advisory service that complements more traditional extension activities; with either approach, an essential skill is the ability to "translate" scientific results into useful information for practitioners.

Increasing use is also being made of electronic publication and the Internet. The Global Forest Information Service (GFIS),[14] hosted by the IUFRO secretariat, is an Internet gateway that provides access to information on forest resources on the global scale; this currently holds more than 120,000 metadata records and will include maps, data sets, web resources, journal articles, books and other resources related to forests. Other examples include the European Virtual Faculty of Forestry;[15] the Italian Academy of Forest Sciences' e-forum for the development of SFM Standards relevant to Apennine and Mediterranean Forests;[16] Pakistan's *allforesters* mailing list; and the Swiss information service on natural resources in international cooperation.[17]

It is important to identify responsibilities for disseminating information, updating it in the light of scientific and technical developments, and changing socio-economic conditions and views about the primary role of forests. Plans for dissemination should form an integral part of all research programmes. In addition, research institutions and government departments, professional bodies, trade associations and NGOs may all have a key role in the effective dissemination of information. Sweden referred to the importance of providing information (for example, through educational

[14] The website is *http://www.gfis.net/*.
[15] The website is *http://gis.joensuu.fi/viefor*.
[16] The website is *http://www.aisf.it/sam/index.htm*.
[17] The website is *http://www.intercooperation.ch/inforest/*.

work and publications) for people who work outside the forest sector but wish to participate actively in discussions about forests.

Forest-related scientific research capacity varies considerably between countries. Some have a wide range of research institutes and academic establishments, while others (particularly a number of developing countries) explained that their research capacity is small or minimal. The most commonly cited sources of research funding are national Governments (and the EU), international donors and the voluntary sector. The CPF focal agencies for forest-related scientific knowledge, CIFOR, ICRAF and IUFRO, are themselves important scientific institutions or organizations.

Many reports, from both developed and developing countries, referred to a general decline in funding for forest-related scientific research. While at least one country (Norway) funds research and development by means of a levy drawn from all harvested wood sales, others (such as Spain) noted that, apart from the paper and board industry, the industrial sector has limited capacity to fund major research, concentrating instead on development projects that make use of existing research findings. Benin and Malawi stressed the problem of underfunding. Guatemala explained that the forest research strategy had helped identify research priorities, which were being funded through a number of ITTO projects. In Uruguay, the private sector has an increasing role in funding research and determining research priorities.

The need for collaboration and international cooperation was stressed in a number of reports. This is necessary to prevent duplication and friction between research institutions. It can also bring together complementary sources of funding for integrated projects: for example, some funders may focus on high-quality basic research, while others focus on near-market research and technology transfer. Other reports mentioned the value, particularly where research capacity is limited, of drawing upon research findings developed at the regional level and applying them to the local context.

Enhancing interaction between scientific research and policy processes

The *Guidelines* invited countries to provide information on:

> "enhancing interaction between scientific research and policy processes, including priority-setting of research, addressing knowledge gaps and using scientific knowledge to support decision-making".

Mechanisms for identifying research priorities include establishing forest research strategies, within the overall framework of nfps or similar documents, in consultation with the potential beneficiaries from research as well as scientists. It is also important to align forest-related research priorities with more general government priorities in order to secure research funding; for example, in New Zealand, research priorities for forestry must align with government priorities for public good research and established criteria

in order to secure a portion of the contestable research budget. Effective networking can also be useful. Finland cited its Forest Forum for Decision Makers as a good example of interaction between science and policy processes and between different sectors: it is directed at top-level decision makers and aims to identify new ways for the forest sector to help resolve wider social problems.

Many reports demonstrated a positive approach towards enhancing interaction between scientific research and policy processes, and several referred specifically to mechanisms (such as forest science advisory boards) designed to achieve this. They emphasized the important role of priority-setting in ensuring that research is policy-relevant, and the value of research results in influencing policy (including development of nfps, legislation and operational guidelines) as well as forest management. Some reports also highlighted the complexity of the relationship between scientific outputs and decision-making. They explained that there may be scientific uncertainty or lack of consensus, and that the decision-making process needs to take account of a wider array of economic and social political considerations. The report from the United Kingdom described a recently developed training course on communication methods and science advocacy, designed to help researchers improve their skills in communicating their findings to stakeholders so as to influence policy and developmental impact; participants have included scientists from Costa Rica, Ghana and Thailand.

12. Forest conservation and protection of unique types of forest and fragile ecosystems

Creating or expanding protected areas

The *Guidelines* invited countries to provide information on:

> "creating or expanding protected areas to safeguard forest and related ecosystems and their full range of values, and developing and applying criteria and methodologies for assessing the conditions and management effectiveness in protected forest areas".

Substantial progress has been made in establishing protected area networks in all regions of the world. Over 10 per cent of global forest area is currently under some form of protection, although the degree of protection varies significantly between regions and there is inadequate information on the status of different forest types.

The reports identified a number of initiatives and challenges at the national level:

- A World Bank corridor project in rainforest regions in Brazil has been established;
- In Cambodia, 1.5 million hectares of protected areas have been created in forests where concessions have been cancelled because of failure to fulfil conditions; in addition, valid concession areas have been designated as protected forest where they have biodiversity importance;
- Both Finland and Norway have evaluated their networks of protected forest areas to ensure that they have a sound scientific basis and cover the full range of habitat types and threatened species. They also noted the cost of achieving this, especially where there is a need to restore special features of natural forests, to carry out scientific inventories and to provide visitor facilities;
- The area of gazetted forest reserves in Malawi had increased by 20 per cent over the past five years, but effective management was becoming more difficult as a result of encroachment and illegal exploitation of forest resources, especially in the densely populated areas where landholdings average less than one hectare per family;
- The Russian Federation has a long tradition of valuable scientific research in protected areas, but the scientific departments in the reserves now suffer from lack of resources;

- In Senegal, 10 new reserves have been created since 2001 to help achieve the 12 per cent target, but the problem of bush fires is a major concern;
- Lack of funding is the greatest threat to protected areas in Serbia and Montenegro, where national parks are increasingly forced to sell timber from their forests to meet financial needs and, in some places, pressure from development and tourism is threatening biodiversity;
- There have been substantial increases in the area of protected forest in the Sudan, but problems have included the high cost of surveying and registering this land and encroachment for agricultural, residential and industrial purposes.

A good deal of action has been taken within the framework of international agreements, including CBD and those relating to IUCN and UNESCO categorizations. ITTO is currently implementing 10 transboundary conservation projects that cover 10.3 million hectares of tropical forests. Regional programmes include the Central American Biological Corridor, which will help strengthen national systems of protected areas, and the EU Natura 2000 network of protected areas in Europe. GEF, UNDP and the World Bank and UNDP are involved in the Meso-America forest conservation project. UNDP is working with GEF on 29 forest conservation projects in 27 countries, funded through the OPs on Forest Ecosystems and Mountain Ecosystems.

Developing and implementing partnership mechanisms for forest conservation areas

The *Guidelines* invited countries to provide information on:

> "developing and implementing partnership mechanisms to engage forest owners, private sector, indigenous people and local communities in the planning and management of forest conservation areas and developing and implementing a range of innovative mechanisms for financing and encouraging forest conservation".

Partnership mechanisms include consultation prior to the designation of forest conservation areas; mechanisms for stakeholder participation in the development of management plans; joint management; the establishment conservation land trusts (for example, where NGOs acquire and/or manage forest conservation areas); and public-private contracts that pay landowners to carry out conservation work and/or compensate them for losses incurred due to restrictions on forest management activities in protected areas that are in private ownership.

Examples of innovative mechanisms that were given in the reports included:

- The provision, in the Congo, of alternative hunting areas, for example in peripheral zones, to prevent conflict with local communities;

- The introduction, by Finland, of a system of competitive tendering, whereby landowners offer to rent or sell ecologically valuable areas of forest to the authorities at an agreed price. Tenders are selected according to financial costs and ecological benefits. Finland also referred to a case where a paper company had donated land to the State to allow for the establishment of a national park;
- Promotion of poverty alleviation and community involvement programmes in Indonesia, to help overcome the difficulties arising from the problems of poverty in neighbouring communities;
- Development of mechanisms to use land trusts as a way of securing good management of forest conservation areas in private ownership in the Republic of Korea, combined with awareness-raising among private forest owners;
- The creation by the Government of Venezuela of a unit to manage environmental conflict and the development of technical guidelines for involving communities;
- Viet Nam's policy of providing annual payments to individual households, which are allocated an area of around 30 hectares to protect. This policy is currently under review, with some advocating increased payments, and others arguing that the forest protection contracts should be replaced by an improved policy on benefit-sharing.

Rehabilitation and sustainable management of forests and trees in environmentally critical areas

The *Guidelines* invited countries to provide information on:

> "giving high priority in national forest programmes to the rehabilitation and sustainable management of forests and trees in environmentally critical areas, recognizing the linkage between forest protection and sustainable development and improving the coordination among such policies and programmes".

Most nfps, and related biodiversity strategies, give priority to the rehabilitation and sustainable management of forests and trees in environmentally critical areas. There is, however, a marked variation in the major challenges and key success factors identified in different reports:

- Algeria explained that the distinction between production forests and protection forests is not well defined: production forests in good ecological condition also contribute to protection and conservation;
- Bulgaria highlighted the importance of effective measures to protect environmentally critical areas from fire;
- The nfp in Cyprus includes provisions for the protection and restoration of degraded land, watershed protection, the maintenance of ecosystems and biodiversity, and the conservation of the flora and fauna. High priority has been given in the Rural Development Plan

to protect and restore woodlands and single trees in environmentally critical areas or of important ecological value;

- Denmark outlined the development of voluntary operational guidelines for SFM at the management unit level, based on near-to-nature principles for forest management;
- Lesotho explained that, despite the existence of management plans backed by regulatory measures, the loss of natural forest continues because it covers only a small area and is a valuable resource for many rural people, providing fuel, timber, medicines (for both humans and livestock), sites for traditional ceremonies, grazing and shelter for livestock;
- Changes in Lithuanian forestry policy were expected to lead to reduced clear-cutting in order to restore ecologically stable forest stands. Considerable attention has been paid to the preparation of scientifically based norms for establishing and managing protected areas;
- In Malawi, high population levels mean that more innovative ways are urgently required in order to balance the day-to-day needs for food and energy with the need to manage environmentally critical areas of forest sustainably;
- Poland highlighted the importance of fragile mountain forest ecosystems and the threats those areas face from air pollution, weather conditions, insects and fungi;
- The Russian Federation explained that the concept of SFM has removed forestry from a narrow industrial framework, broadening it to embrace the ecosystem approach. Accordingly, there has been a substantive revision in forest policy, shifting from a simple focus on exploitation of forest resources to an ecosystem approach. This balances the needs of forest resource use and economic efficiency with the long-term conservation of forest habitats, including their biodiversity, ecological functions and global role in carbon storage. The report recognized that, given its impact on local economies and employment, much practical work is needed to achieve this transition;
- Turkey noted that even if forests do not have formal protection status, their importance in protecting, for example, soil and water is recognized in management plans.

UNEP is assessing the vulnerability of forest ecosystems to environmental change by analysing pressures on forest ecosystems and identifying unique forest types. There is also a Mountain Cloud Forest Initiative established by UNEP with the IUCN Commission on Ecosystem Management and the UNESCO Man and Biosphere Programme. FAO is working with many countries on innovative approaches for the conservation and sustainable development of watersheds, especially in mountains, and on best forestry practices to conserve water resources in lowland landscapes.

13. Rehabilitation and conservation strategies for countries with low forest cover

The *Guidelines* invited countries to provide information on:

> "expanding forested area, establishing and managing plantations to enhance production of forest goods and services, while avoiding the replacement of natural ecosystems, and recognizing the role of imports in satisfying the needs for forest products and services; promoting the regeneration and restoration of degraded forest areas including through partnerships and building capacities to promote effective participation in decision-making, and development and transfer of environmentally sound technologies; improving the efficiency of international cooperation to support the management, conservation and sustainable development of all types of forests and building capacity to monitor forest resources."

The precise definition of a low-forest-cover country is not conclusively agreed upon yet, but a threshold of less than 10 per cent of land area covered by forest is commonly adopted, giving a total of 67 low-forest-cover countries. In 1999, an expert meeting in the Islamic Republic of Iran[18] helped to provide guidance on the issues that are most important for forest management in low-forest-cover countries and led to the launch of the Tehran Process.

Action taken has included afforestation programmes and the implementation of detailed operational guidelines aimed at conserving the protective functions of forests in areas of low forest cover. Mechanisms have included direct government intervention; the use of regulation and codes of practice (for example, in relation to felling); financial support (including low-interest loans); and provision of information.

Reports from particular countries stated that:

- Algeria began implementing the national reforestation plan in 2000; this includes the establishment of a green belt (*barrage vert*) of 3 million hectares, 1,200 kilometres long and 25 kilometres wide. The plan has also led to useful research on nursery improvement. Despite its importance, the requirement for greater financial support still remains for full implementation;

[18] This was the International Expert Meeting on Special Needs and Requirements of Developing Countries with Low Forest Cover and Unique Types of Forests, held in Tehran, Islamic Republic of Iran, from 4 to 8 October 1999 as a country-led initiative in support of the programme of work of IFF.

- In the Islamic Republic of Iran, the main objective of forest policy is to protect forests in natural ecosystems. Restoration of degraded forests is carried out by native species and a main objective is to achieve ecosystem sustainability and increased biological diversity. In addition, plantations have been established and managed to meet local needs, with management plans being implemented with the collaboration of local communities and the private sector. Shortage of irrigation has been a constraint;
- To tackle the challenge of combating desertification in Lebanon, the Government has made funds available for reforestation/afforestation of 18,000 hectares of abandoned land; further plans will cover an area of 200,000 hectares to be planted over 30-40 years. Priority is given to abandoned land, not suitable for agriculture and prone to desertification; wooded lands with less than 10 per cent crown cover; abandoned lands around forests and other wooded lands; and land with environmental, tourism or aesthetic value. The plan stresses the importance of coordination with all the concerned stakeholders;
- In Lesotho, trees have been planted by the Government, individuals, communities and associations in an attempt to rehabilitate degraded lands, as well as to ensure adequate wood supply;
- The establishment of irrigated plantations helps to reduce pressure on natural forest ecosystems in Pakistan, but acute shortages of irrigated water are a major impediment in establishing new plantations and maintaining existing ones. There has also been concern about the negative environmental impacts of eucalyptus and about the use of polythene bags in forest nurseries. Eucalyptus plantations are now restricted to degraded and saline lands;
- The primary goal of the Government of the Russian Federation in areas of low forest cover is the maintenance of natural functions of forests, including water-security and anti-erosion functions. Since 1997, the Forest Code has included substantive provisions relating to water-security and protective functions of forests, with detailed regulations relating to felling; ecological criteria, which assess changes in the forest environment following felling, help determine appropriate felling systems and harvesting methods;
- In the Sudan, plantations have been established using both indigenous and exotic species, but annual areas of planting are far below strategic and policy targets, because of funding constraints. There has been increased international cooperation in more recent years, but this followed an earlier withdrawal by almost all the international organizations cooperating with the forestry service.

The Tehran Process provides an important framework for CPF members' cooperation and collaboration among low-forest-cover countries. The secretariat of the Tehran Process, with UNEP, FAO and ICRAF, organized

an international workshop for low-forest-cover countries in the Near East and Africa;[19] case studies on Ethiopia, the Islamic Republic of Iran, Mali, Namibia, Oman and Tunisia were prepared for the meeting.

The focus of the Global Mechanism under the UNCCD is the mobilization of financial resources for co-funding projects on land degradation, including those related to the OP on Sustainable Land Management. UNDP is implementing a number of GEF-funded forest conservation projects in countries with low forest cover. In addition, through its Dryland Development Centre, UNDP has assisted many countries in the development and implementation of national action plans under the UNCCD. FAO and UNEP, with funding from GEF, are implementing the global project on land degradation assessment. UNEP and the UNCCD secretariat are collaborating on a project aimed at providing standardized information and methodologies for land degradation assessment in drylands.

[19] Held in Mali in January 2004.

14. International trade and sustainable forest management

Efforts to reduce negative impacts of trade

The *Guidelines* invited countries to provide information on:

"efforts to reduce negative impacts of trade".

International trade is regulated through WTO by a well-established legal framework, which includes market access for forest products. The global value of trade in forest products (roundwood, sawn wood, panels, pulp and paper) is around US$ 133 billion per year, with paper products accounting for about half of the total. A number of reports called, variously, for further liberalization of the multilateral trading regime; multilateral efforts to make trade and environment mutually supportive; the removal of forestry tariffs and of non-tariff barriers to trade; and the need for action through internationally coordinated and harmonized approaches. Some countries expressed concern about trade in forest products from potentially unsustainable sources. In addition to noting the environmental consequences, they explained that this makes their domestic industry compete with lower-priced imports derived from unsustainable operations. A number of exporting countries explained that they have taken measures to ban or restrict trade in certain forest products in order to promote SFM. Reference was also made to voluntary labelling and voluntary declarations of origin as a mechanism for countering such negative impacts of trade, and to the role of CITES in relation to certain species, such as mahogany. Another potentially negative impact of trade arises from the risk of unintentionally importing damaging pests and diseases, but it was noted that this issue is being addressed through other international mechanisms.

Some countries have launched guidelines on public procurement aimed at ensuring that wood products are sourced from sustainably managed forests. For example, recent Danish guidelines on public procurement of tropical timber recommend the use of internationally agreed criteria for SFM as providing the basis for assessing compliance. France has also developed a public procurement policy for wood; the aim is that 50 per cent of tropical wood will come from legal and sustainable sources by 2007, progressing to 100 per cent by 2010. The United Kingdom has established an advisory service to help government buyers to evaluate evidence about the legal origin of supplies and claims of SFM.

ITTO and FAO are collaborating on several initiatives related to trade and sustainable forest management, including an impact assessment of forest products trade in the promotion of sustainable forest management, which aims to analyse market forces and identify the dynamics between trade and forest management.

Forest certification and labelling schemes

The *Guidelines* invited countries to provide information on:

> "participation in forest certification and labelling schemes and work toward mutual recognition and comparability of such schemes".

Countries emphasized that certification is a voluntary, market-based tool and referred to a number of different certification programmes, including the American Forest and Paper Association's Sustainable Forest Initiative, the Australian Forestry Standard, the Canadian Standards Association's National Sustainable Forest Management Standards, Forest Stewardship Council certification, ISO 14001, the Malaysian Timber Certification Council, the development of a pan-ASEAN Timber Certification Scheme and the Programme for the Endorsement of Forest Certification schemes. Several countries gave details of the forest area certified under one or more of these programmes and of associated chain-of-custody certification. In addition, a number of countries have developed national certification standards. For example, in Japan the Sustainable Green Ecosystem Council has established a forest certification system based on the particular situation in Japan, where there is a high proportion of planted forests and small-scale ownership.

Certification can help exporting countries to demonstrate that their forest products come from sustainably managed sources. For example, New Zealand regards certification as an important step for future marketing, as it will provide customers with an assurance that New Zealand forest management is ecologically sound and socially beneficial, while maintaining economic viability. Several reports noted the importance of commitments by major retailers to sell wood and wood products with particular certification labels.

Although certification is voluntary, some countries have introduced measures to encourage it. For example, in Guatemala, certification by the Forest Stewardship Council is an explicit requirement of concession contracts, and in Peru, financial incentives are offered to encourage certification.

Concern was expressed about potential variation in the way in which standards are applied by auditors; the need for mutual recognition of the different certification schemes; and the costs of certification. These costs include the process of certifying the forests themselves, the costs of chain-of-custody certification and the costs of work needed to address the issues raised during the certification process. In order to help promote a phased approach to certification, ITTO has convened three regional workshops and has finalized a study on the potential role of phased approaches to certification in tropical timber-producing countries.

Efforts to reduce illegal trade in wood or non-forest products

The *Guidelines* invited countries to provide information on:

"efforts to reduce illegal trade (exports from or imports into your own country) in wood or non-wood forest products".

Illegal trade in forest products is a serious problem, and countries stressed the need for international collaboration, for example through the FLEG/FLEGT processes. The FLEG/FLEGT processes were initiated in recognition of the fact that illegal trade in forest products has no national identity. The basic activity of the FLEG/FLEGT processes is to strengthen and harmonize practice and apply international and national law correctly. Illegal trade in forest products has been an item on the agenda of G-8 since 1997.

Action taken includes the use of tracking systems to verify the source and legality of timber. The Congo described the use of bar codes on logs, and the Philippines outlined a forest stock monitoring system that tracks movements of logs from stump to processing plant through a nationwide network. Several countries stressed the importance of building long-term business relationships with known partners and avoiding long supply chains with several middlemen. Some distinguished between large-scale commercial operations and smaller-scale illegal activity, stimulated by high levels of unemployment and economic desperation, suggesting that in these latter cases rural development measures may be more effective than the imposition of repressive controls.

Effective administration systems are also critical for controlling illegal activity, but much also depends on the human factor, including the responsible behaviour of officials at all levels, and resources. In Malawi, for example, export licences are the main tool for reducing illegal trade, but it is difficult to strengthen this system in a country with extensive borders that cannot be adequately manned or monitored. Cambodia also described its efforts to prevent illegal forest and wildlife activities; since 1998, law enforcement agencies have recorded nearly 4,000 cases. A number of officials employed in tackling illegal activity have been murdered.

Officials have also been murdered in the Russian Federation, where the growth of illegal timber cutting (estimated at about 7 per cent of all felling) is causing significant damage to the national economy. The illegal activities include discrepancies in harvesting volumes, incorrect procedures for allocating and demarcating harvesting sites, over-cutting, understating prices, fraudulent documentation and bypassing checkpoints on the border. It is concentrated in the frontier regions of the far east, the north-west and Siberia. Institutional reform, begun in 2002, is aimed at strengthening the federal authority.

ITTO has been taking the lead on trade issues within CPF and continues to promote international trade in tropical timber, including trade from sustainably managed sources. IUCN, CIFOR, ITTO and FAO have also been actively involved in FLEG/FLEGT processes.

15. Financial resources

The *Guidelines* did not include any separate sections on financial resources, but countries were invited to provide relevant information on finance (as well as other means of implementation) in relation to implementation of the IPF/IFF proposals for action.

There is evidence, from many reports, of financial problems arising because revenue from forest products is not matching increased costs, including in particular those associated with the delivery of non-marketed social and environmental outputs. For example, it has been estimated that US$ 760 million would be required for full achievement of SFM in Malaysia, where SFM-related practices will add 60-70 per cent to harvesting costs. As another example, income from forestry in the Russian Federation does not cover costs, but the financial condition of the industry is closely interconnected with its ability to finance SFM: a primary goal is to increase profitability by increasing revenues.

Some countries gave examples of ways in which they are responding to the challenge of financing SFM. For example, Lithuania is investing in more efficient processing, marketing and export operations. As noted in chapter 7, a number of countries are seeking to generate increased revenues by addressing issues of forest fiscal reform, charging for environmental services and developing new business opportunities, such as ecotourism.[20]

Notwithstanding these developments, many developing countries and countries with economies in transition stressed the adverse impact of financial constraints and the reduced flow of ODA to the forest sector on the implementation of their strategies to promote SFM. Many countries benefiting from international support gave details of individual projects (see chapter 16), but several noted that donors have been relatively unwilling to support projects simply because they relate to the implementation of IPF/IFF proposals for action. Projects are often selected according to geographical priorities and such other factors as good governance, democracy and human rights. Some countries stated that their situation is particularly difficult: for example, the implementation of action to combat forest degradation in Togo has been handicapped by the suspension of cooperation from most financial partners.

Generally, the emphasis of ODA has shifted away from individual sectoral support towards broader programmes linked with national priorities, although this varies between countries. While Belgium now supports very few forestry projects and Portugal's ODA is directed mainly to the needs and concerns of least developed countries (which are not always linked with forest issues), Finland allocates 6 per cent of its ODA to the forest sector.

[20] A country-led initiative in support of UNFF on innovative financial mechanisms: searching for viable alternatives to secure basis for the financial sustainability of forests was held in San José, Costa Rica, from 29 March to 1 April 2005.

The United Kingdom's international development programme focuses on the need to ensure that forests contribute to sustainable development and poverty eradication; primary attention is now given to addressing policy, institutional, legal and governance issues.

CPF has developed a *Sourcebook on Funding for Sustainable Forest Management*,[21] which is intended to assist developing countries by disseminating information on available funding. CPF members have also been a significant source of funds:

- Between 2002 and 2003, FAO contributed US$ 31 million to forest activities through its regular programme and US$ 62 million through its field programme, including trust funds and technical cooperation and emergency projects;
- GEF, as the financial mechanism for the CBD, the UNCCD and the UNFCCC, had (as of June 2004) provided US$ 822 million in support of projects that address threats to forests through its OP on Forest Ecosystems; this funding leveraged nearly US $1.2 billion in co-financing. Additional financing is directed to forest conservation through other GEF biodiversity OPs, such as the OP on Mountain Ecosystems, which has received US$ 440 million of GEF support. Through OP 15, Sustainable Land Management, GEF is providing approximately US$ 177 million to support forest management;
- ITTO continues to mobilize financial resources for the sustainable management of tropical forests through its policy work and project activities. Since its establishment in late 1986, ITTO has mobilized some US$ 250 million to fund more than 500 projects and activities through its own mechanisms, including the ITTO Special Account and the Bali Partnership Fund;
- Since the adoption of its revised forest strategy, World Bank Group lending for forest management, conservation and development has grown from US$ 61 million in 2001 to an estimated US$ 619 million for 2005.

Funding from NGOs and other voluntary sources, such as trust funds and foundations, is also recognized, although some countries stated that their ad hoc nature can make it difficult to plan for effective use. ODA is often channelled through NGOs, community-based organizations, schools and other development partners. Another innovative development in recent years has been the use of debt for nature swaps. During discussion at a country-led initiative held in 2005 on innovative financial mechanisms, it was noted that the use of such debt swap programmes for SFM is a tool that has great potential for developing countries with high levels of debt.[22]

[21] The website is *http//:www.fao.org/forestry/site/7148/en.*

[22] Country-led initiative on innovative financial mechanisms: searching for viable alternatives to secure basis for the financial sustainability of forests, held in San José, Costa Rica, from 29 March to 1 April 2005.

16. International cooperation in capacity-building, and access to and transfer of environmentally sound technologies to support sustainable forest management

The *Guidelines* invited countries to provide information on:

> "international cooperation, including development and implementation of partnerships".

Many countries are actively engaged in international processes, including those associated with UNFF itself and (at the regional level) such partnerships as the Amazon Cooperation Treaty Organization; the Andean Community of Nations; the Asia Forest Partnership; ASEAN; the Baltic 21 process; the Central American Alliance for Sustainable Development; the Central American Forest Council; MCPFE; SADC; and other C&I processes.

Collectively the reports also gave numerous examples of bilateral and multilateral cooperation projects. These examples included:

- Between Argentina, Brazil, Chile and Uruguay on conservation and sustainable management of native forests;
- In Benin, cooperation with Germany on teak management; and with Japan on remote sensing to monitor forest cover;
- In Brazil, cooperation with Finland to support nfp implementation, to promote SFM and rural development strategies, to support small and medium-sized forest owners, and to promote research and forest information systems; with Italy on fire prevention and emergency fire control in tropical forests; and with Portugal on environmental, social and economic aspects of carbon fixation;
- In Bulgaria, cooperation with Denmark in the field of environmental protection; with Germany on forest restitution and management; with Switzerland on a Bulgarian-Swiss Forestry Programme; with Turkey in relation to a common protected area; and with Germany, Switzerland, FAO, UNDP and the World Bank on the establishment of the Bulgarian nfp and strategy;
- In Burkino Faso, cooperation with Austria, Belgium, Canada, China, Denmark, France, Germany, Japan, Luxembourg, the Netherlands and Switzerland on a wide variety of projects relating to the forest sector; and cooperation with Finland on integrated forest fire management;

- In Cambodia, cooperation with Belgium on participatory natural resource management for agroforestry; with Germany on forest cover assessment, nfp development, consultation processes, community-based management and integrated planning approaches; with Denmark on tree seeds; and with Japan on capacity-building;
- In six Central African countries (Cameroon, Central African Republic, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Republic of the Congo), cooperation with the United States and other partners through the Congo Basin Forest Partnership, launched at the World Summit for Social Development (WSSD), aimed at promoting SFM, economic development and improved local governance. The report from France also highlighted a number of significant projects in this region;
- In Central American countries, cooperation with the United States under CONCA USA to promote conservation of biodiversity, to prevent and fight forest fires, to strengthen reforestation programmes, to establish woodfuel plantations, and to form associations between the systems of national forests of Central America and the United States;
- In China, the Green China Project, involving Slovakia, the Czech Republic, Austria, Poland and Hungary; cooperation with Finland on forest certification, environmental education, the effect of afforestation on carbon sequestration, and nurseries; cooperation with New Zealand; and a bilateral memorandum of understanding between China and Sweden;
- In Colombia, cooperation with Germany on promotion and financing SFM, and certification; with the Netherlands on forest inventory; and with the United States on mechanisms for formulating and implementing forest policy;
- In Guyana, cooperation with Canada and the United Kingdom on research, conservation and development in the Iwokrama Reserve (370,000 hectares of tropical forest with equal areas for wilderness preservation and sustainable utilization); with the Netherlands on reduced impact logging; and with the NGO Conservation International on research and biodiversity conservation;
- In Indonesia, cooperation with Finland on forest industry development;
- In the Lao People's Democratic Repablic, cooperation with Finland on community forestry;
- In Lesotho, cooperation with Germany on forest development; and with Kenya on social forestry;
- In Liberia, cooperation with the United States to support post-conflict evaluation to reform and rehabilitate the forest sector;

- In Lithuania, cooperation with Sweden on woodfuel, woodland habitat inventory and advisory services for private forest owners;
- In Madagascar, cooperation with Germany, Switzerland and the United States on community management of State-owned forests;
- In Malaysia, cooperation with Denmark on sustainable management of peat swamp forests; with Germany on sustainable management of inland forests (including preparation of guidelines on reduced impact logging, silviculture and forest management); and with the Netherlands on sustainable management of *Gonystylus bancanus* (ramin);
- In Mexico, cooperation with Finland on preparing and implementing a Strategic Forestry Plan 2005;
- In Mozambique, cooperation with Finland on national forest inventories and integrated forest fire management;
- In Myanmar, cooperation with Japan on agroforestry, investigating the properties of herbal plants, community forestry, ecology of teak and mangrove forests and extension work; and with the United States on conservation of habitats for elephants and tigers, for example;
- In Namibia, cooperation with Finland on nfp development, national forest inventories, forest conservation, community forestry and integrated forest fire management;
- In Nepal, cooperation with Australia on community resources management and livelihoods; with Denmark on natural resource management and community forestry; with the European Union on an integrated watershed management project; with Germany on the Churia forestry development project; with the Netherlands on biodiversity; with Switzerland on community forestry development; with the United Kingdom on a livelihoods and forestry programme; and with the United States on strengthening governance of natural resources;
- In the Pacific island States, cooperation with New Zealand;
- In Peru, cooperation with Finland on forest conservation and community forestry; with Germany on rural development and environmental education; with the Netherlands on combating desertification; and with the United States through debt reduction to fund tropical forest conservation;
- In the Republic of Korea, cooperation with China, Indonesia, Mongolia, Myanmar and Viet Nam on restoration of degraded forest; with China and Mongolia on preventing yellow dust storms and combating desertification; and with Indonesia on combating illegal logging;

- In the Russian Federation, cooperation with Finland on SFM and biodiversity conservation (including education of employees in forest organizations); and with Sweden on forest sector cooperation;
- In Serbia and Montenegro, cooperation with Canada on development of a public relations strategy and expertise; with Norway on development of the Serbian forest sector; and with Luxembourg on forest management and planning, and seed and nursery production, in Montenegro;
- Cooperation between Sweden and a number of African countries on lessons learned on SFM in Africa;[23]
- In Turkey, cooperation with Finland on trade in forest products and forest sector technology, on nfp implementation and to support joint commercial projects;
- In Ukraine, cooperation with Sweden on development of a strategic plan for developing the forest sector during the period of transition to a market economy;
- In the United Republic of Tanzania, cooperation with Denmark on agroforestry and the development of sustainable strategies for the forestry sector based on open and participatory dialogue; and with Finland on nfp development, forest conservation, community forestry and joint forest management involving rural communities in the conservation of protected forest areas;
- Under the Tropical Forest Conservation Act, provision by the United States of debt reduction to provide funds for tropical forest conservation in Bangladesh, Belize, El Salvador, Panama and the Philippines. The United States also launched the Global Conservation Program as a partnership with six leading conservation organizations to protect forests with globally significant areas of biodiversity;
- In Vanuatu, cooperation with Australia to develop practical methods for assessing and reporting progress towards the implementation of the IPF/IFF proposals for action;
- In Venezuela, cooperation with Canada, the United States, Chile, Spain and France on forest fires;
- In Viet Nam, cooperation with Thailand on agroforestry; and with four bilateral partners to provide financing for pro-poor sustainable forest management;
- In Zambia, cooperation with Finland on nfp development.

This list is, of course, incomplete, and is intended only to provide a flavour of current activity. There are many more examples of cooperation and assistance: for example, Germany noted that the Government supports about 310 forest projects in 66 countries. In addition, some reports referred

[23] A country-led initiative in support of UNFF.

to cooperation with NGOs, for example, on watershed management, wildlife, conservation and landscape projects.

International cooperation in capacity-building and the transfer of technology is an essential part of CPF member organizations' work in support of SFM. Examples included the following:

- CIFOR, ICRAF, IUCN and WWF have established the Rainforest Challenge Partnership to enhance the productivity, sustainability and diversity of landscape mosaics in the humid tropics, in order to meet the needs of rural poor people while maintaining the flow of environmental goods and services and conserving forest biodiversity;
- As of September 2004, 36 countries and two subregional entities had received grants from the National Forest Programme Facility, hosted by FAO. FAO also supports development and implementation of nfps in 22 countries through its technical cooperation programme, and is undertaking studies on financial strategies and mechanisms to support nfps, initially focusing on Latin America;
- PROFOR, hosted by the World Bank, has been working on development and implementation of nfps in Cameroon, Costa Rica, Guyana, Malawi and Viet Nam;
- UNDP has supported decentralization and local governance processes by addressing policy reforms and development planning, promoting effective legal frameworks and mobilizing resources for use at regional and local levels. UNDP's Capacity 2015 programme is providing support to developing countries in capacity-building related to socio-economic development;
- UNEP, in partnership with FAO and IUCN, is providing support for developing countries on technical issues related to the UNFCCC modalities for forest projects under the Clean Development Mechanism of the Kyoto Protocol;
- A World Bank loan for Romania's Forest Development Programme is strengthening the private sector and forest-related institutions so that they will be able to benefit from EU rural development measures.

Notwithstanding this activity, several reports highlighted the continuing problems associated with inadequate capacity-building, and inadequate access to, and transfer of, environmentally sound technologies to support SFM.

17. Monitoring, assessment and reporting, and concepts, terminology and definitions

The *Guidelines* invited countries to provide information on:

> "improving information on national forest resources, making the information widely available, assisting other countries in their related efforts".

Most countries outlined the basis of their forest inventory systems. For the majority of those that reported, these have been established for many years, but developments in some countries are more recent. For example, the report from El Salvador described its proposals for a forest inventory; in 2000, Guatemala published a map of forest cover; Lebanon is carrying out its first national forest and tree inventory; Togo has just begun a forest statistics project; and Venezuela began a national forest inventory in 2002.

In addition to data on trees and wood production, many countries now collect information on ecological condition, biological diversity, tree health, fires, recreational use and NTFPs.

Several countries gave examples of recent innovations:

- India has introduced advanced digital image processing systems, which help to reduce the time lag between the capture of underlying satellite data and the publication of reports based on the data. The report added that India has the technology to assist other developing countries with respect to capacity-building and training;
- New Zealand is creating a spatial data database that will reconcile forest locations and owners with the farm-based database;
- Sweden has developed a National Inventory of Landscapes to complement the traditional sample plot system. This landscape monitoring uses random 2,500 hectare squares to collect data on landscape structure, land use and biodiversity;
- Switzerland makes a version of its data made available to the general public in the form of a "walk through the Swiss forest" website.[24]

On the other hand, a significant number of countries reported difficulties with monitoring, assessment and reporting. For example:

- In Algeria, the work of the land register of forests has not progressed well because the National Land Register has other priorities. The national forest inventory suffers from a lack of expertise in inventory methodology and tree mensuration and a lack of technical aid;

[24] The website is *http://www.lfi.ch/spaziergang*.

- The exact situation regarding forests in Benin remains unknown. Some studies have been carried out under particular projects, but the National Centre of Remote Sensing and Monitoring of Forest Cover suffers from staffing difficulties that make it difficult to take advantage of investments in terms of equipment and training. Another problem is that this Centre has been privatized, which makes it difficult to give priority to public work;
- In relation to its international development cooperation activities, Finland noted that national forest inventories are often constrained by a lack of technical capacity and funding. Despite use of modern remote sensing technologies, the inventories always involve significant, and time-consuming, fieldwork;
- Information on forest resources in Malawi is generally outdated, based on the land map drawn up in 1992; forest plantation resource/stock maps are also old and require updating;
- Slovakia explained that the traditional Central and Eastern European method of inventory is not compatible with the sampling methods used in other European countries, causing problems for international data collection.

CPF has a Task Force on Streamlining Forest-related Reporting and is also closely involved in work to harmonize forest-related definitions. IUFRO has recently developed an online multilingual glossary of carbon-related forest terminology.[25] Several CPF members have collaborated with other organizations (such as EUROSTAT and the UN Statistical Office) in the further development of the Joint Forest Statistics Questionnaire to enhance accuracy and reliability of information on forest products production and trade.

FAO has recently increased its effort to build capacity for national forest assessments and to improve the forest information base. The FRA provides a comprehensive report on forest resources and their management and uses every 5-10 years. The 2005 update is building on linkages with C&I and using the seven thematic elements of SFM, acknowledged by UNFF at its 4th session, as a reporting framework. The FRA has refined reporting tables and definitions in all FAO languages for the 2005 update. In 2000-2001, UNEP and its partners conducted a comprehensive study on the assessment of the status of the world's remaining closed forests; new data sets, such as Global Land Cover 2000 and updated protected areas, have also become available. UNEP is also working on several projects focusing on the assessment of the state of forests and on the improvement and reporting of information on natural forest ecosystems and biodiversity.

[25] The website is *http://www.iufro.org/science/special/silvavoc/carbon-glossary.*

18. Criteria and indicators of sustainable forest management

The *Guidelines* invited countries to provide information on:

> "developing and using criteria and indicators of sustainable forest management (at national level and/or subnational level and for policy, planning, management and/or monitoring purposes), and participating in regional and/or international C&I processes".

Many countries are developing and/or implementing national C&I within the frameworks provided by the nine regional processes.[26] Countries explained how they are developing national C&I within these regional frameworks and highlighted the close linkages between C&I and their monitoring, assessment and reporting on the economic, social and environmental outputs of forests. C&I are an important tool for monitoring progress towards SFM, especially where there are clear links with nfps. When viewed together, the indicators provide a common base of information for reporting on progress towards sustainability, although interpretations about their relative significance as measures of progress will vary, reflecting differing views on priorities for SFM. Some countries also reported on their use of C&I as a basis for developing certification standards. There is also a need for further development and evaluation of C&I to assess their practical impact on forest management. Honduras is developing a tool to validate the application of C&I.

Stakeholder participation has an important role in the development and implementation of C&I. El Salvador emphasized the use of C&I on stakeholder participation as a way of securing social legitimacy for nfps. Myanmar proposes to carry out field-testing and to send its C&I to international organizations, including NGOs, for critical comment. In Norway, the "Living Forests" project has involved stakeholders in developing standards based on the Pan-European (MCPFE) C&I.

Assembly and publication of C&I have resource implications, and some countries highlighted the costs of developing national C&I. While current data collection may be adequate for some C&I processes, there are often others for which current data collection is inadequate. In some of these situations techniques for gathering the necessary data are well understood, but there may not be feasible and cost-effective data-collection techniques for all desirable C&I. In Colombia, there is a proposal to assess the financial resources required for the evaluation of indicators, based on ITTO's *Manual on Application of the Criteria and Indicators for the Sustainable Arrangement of Natural Tropical Forests*. Venezuela has benefited from ITTO finance in

[26] Access to all regional C&I processes is available through an Internet gateway on the FAO website (*http://www.fao.org/forestry/site/16609/en*).

developing its national C&I (at the management unit level and at the national level) within the context of the Tarapoto (Amazon Basin) process.

CPF members are supporting the regional processes and promoting the development and use of C&I at the national and forest management unit levels. They are also seeking to foster collaboration between countries and between processes. FAO and ITTO were among the co-sponsors of the International Conference on Criteria and Indicators for Sustainable Forest Management: The Way Forward (CICI 2003).[27] To address the recommendations of CICI, another expert meeting was held in 2004 sponsored by FAO, ITTO and the Government of the Philippines.[28] Harmonizing concepts and definitions continues to hamper the orderly development of C&I processes. A meeting to be held in Poland in 2006 sponsored by FAO, ITTO, MCFCE and MPCI was to address this and other related issues. CPF members are actively encouraging and collaborating in the incorporation of C&I into nfps as tools for measuring progress towards outcome-oriented targets.

[27] CICI 2003—International Conference on Criteria and Indicators for Sustainable Forest Management: The Way Forward, Guatemala City, 2003.

[28] "Strengthening the criteria and indicator processes for better implementation, 2004", Expert Consultation on Criteria and Indicators for Sustainable Forest Management, Philippines.

19. Evaluation of progress by the ad hoc expert group on parameters

On the basis of the recommendation by UNFF3, the Economic and Social Council decided in its decision 2003/299 to establish an ad hoc expert group (AHEG PARAM) to provide scientific and technical advice to UNFF for its work on consideration, with a view to recommending to the Economic and Social Council, and through it to the General Assembly, the parameters of a mandate for developing a legal framework on all types of forests. Within this broad mandate the expert group was invited to "consider other outcomes of the international arrangement on forests, inter alia, the efforts of countries to implement the IPF/IFF proposals for action, other expert groups, country- and organization-led initiatives of the Forum and previous relevant initiatives, and forest-related work undertaken by the member organizations of the Collaborative Partnership on Forests". ECOSOC also decided that the preparations for the ad hoc expert group meeting should include "compilation of the progress made and catalysts and obstacles encountered by member States and member organizations of the Collaborative Partnership on Forests in implementing the proposals for action of the Intergovernmental Panel on Forests/Intergovernmental Forum on Forests and the decisions and resolutions of sessions of the United Nations Forum on Forests".

Although the deliberations of almost 70 designated national experts and 60 country representatives did not result in consensus on every issue, they concluded that the creation of the IAF, including the establishment of UNFF supported by CPF, was a considerable achievement. It was noted that there had been progress in the implementation of the IPF/IFF proposals for action, and that the IAF had played an important part in this, although UNFF had a limited mandate and limited means.

It was also indicated that the progress had often been limited at the national level. The experts identified a number of catalysts and obstacles for the implementation of the proposals for action. The most recognized catalysts include:

- Strengthened and secure long-term political commitment;
- The increased development and implementation of national forest programmes, which are also valuable in promoting intersectoral cooperation;
- Political recognition within some countries of the relevance of SFM;
- The process for developing and implementation of criteria and indicators for SFM;

- Certification, although it was also noted that certification is a complex issue;
- Partnerships, including private sector and stakeholder participation;
- The role of CPF and its joint and collaborative initiatives;
- Country- and organization-led initiatives;
- Opportunities for exchange of experience (at Forum sessions, during intersessional activity and informally).

It became obvious, however, that serious obstacles hindered progress, including:

- Difficulties in including forests and forest management on the political agenda;
- Insufficient means of implementation, particularly the lack of financial resources. These include resources needed for national implementation of SFM and for facilitating reporting;
- Policy dialogues that tend to be too far removed from action on the ground and remote from the needs of other levels (national and regional) and other stakeholders (including non-governmental organizations, business and industry, indigenous people and local communities, and practitioners);
- A lack of time and appropriate venues for a more detailed exchange on lessons learned;
- Absence of sufficient financial support from the governing bodies of CPF for collaboration and coordination in relation to forests;
- Inconsistencies in reporting. Some experts noted the desirability of developing a reporting system to facilitate the process for assessing progress. They also noted that monitoring, assessment and reporting are a valuable means for sharing experience in lessons learned;
- A lack of clear goals and targets;
- Inadequate use of partnership opportunities, such as WSSD partnerships.

The experts noted that financial constraints are a particularly important obstacle and can also have an adverse impact on capacity-building and the transfer of environmentally sound technologies for sustainable forest management, particularly in developing countries. Some experts said that there is a need to compete for limited financial resources, and that could be difficult if SFM is not identified as a national priority.

The experts discussed the advantages and disadvantages of dealing with more than 270 IPF/IFF proposals for action. Many experts pointed out that they provide a valuable agenda for forest policy and that countries need to set their own priorities and only implement those that are relevant to their own circumstances. On the other hand, several others noted that the number of proposals, together with their negotiated language, makes them

difficult for conveying a focused message that practitioners can understand. Some experts said that it was important to raise awareness of the IPF/IFF proposals for action among stakeholders and countries, and reference was made to tools for country assessment. There is a need to consider their future role, building upon the achievement of developing them, but also developing more priority objectives. This is necessary in order to develop a common understanding of core priorities that can be shared with those responsible for implementation and with those working in other sectors. It was suggested by some that SFM was more likely to enjoy political support if there was more focus on a small number of strategic goals and key priorities clearly linked to national development strategies. In addition, it was also suggested by some that in a future IAF, the proposals for action should be a context rather than a focus priority for implementation.

20. Conclusions

This overview of action towards SFM is based on voluntary national reports from 74 member States representing approximately 70 per cent of the world's forests. These reports provide a very useful insight regarding the major developments of the most recent years. The voluntary reports and questionnaire responses submitted to UNFF provided a basis for a detailed analytical study (available in electronic format only from the UNFF website),[29] for reports of the Secretary-General, and for subsequent consideration by UNFF of the challenges and obstacles regarding implementation of the IPF/IFF proposals for action, and of future actions. It should be borne in mind, however, that these national reports do not constitute a geographically or topically systematic survey, and so great care should be taken in attempting to generalize from the main findings.

The national reports revealed uneven development across the 16 UNFF elements, offering an excellent opportunity to learn from successes, and sometimes from problems and shortcomings. Formulation and implementation of national forest programmes, promotion of public participation, and criteria and indicators of sustainable forest management were identified by most of the responding countries as areas where good results and considerable development were reached. At the other end of the spectrum, financial resources and international capacity-building and access to and transfer of environmentally sound technologies were mentioned as areas where the greatest challenges remained. Experiences with other UNFF elements vary largely by country, but undoubtedly help in identifying main focuses for future actions.

The reports largely support the main findings of the ad hoc expert group on parameters regarding the catalysts for, and obstacles to, the implementation of the IPF/IFF proposals for action[30] noted in the previous section.

A fundamental challenge for the future is to ensure that society places a proper value on forests, reflecting their non-market, public-good outputs as well as financial returns. Other priorities identified in the reports include the need to develop effective institutional frameworks, with good governance; to safeguard the rights of those people whose daily livelihoods depend on forests; and to establish stronger cross-sectoral links with other parts of national policy processes (such as PRSPs).

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[29] Review of the effectiveness of the international arrangement on forests: analytical study, *http://www.un.org/esa/forests/pdf/national_reports/unff5/analyticalstudydraft.pdf.*

[30] Discussed in more detail in paragraphs 19-33 of the report of the Secretary-General to the fifth session of UNFF on review of progress and consideration of future actions (E/CN.18/2005/8).

The questionnaire responses suggest that the international arrangement has done a good deal of useful work, against a background of many competing priorities on the international agenda, but that its full potential is yet to be realized.

In order to utilize this potential fully, the information contained in these reports suggests that the future work of the international arrangement on forests should be shaped so that it could:

- Secure political commitment. To achieve this, it must be clear to decision makers, and the people they represent, why SFM is relevant to the broader international development goals, including those set out in the Millennium Declaration;
- Strengthen the horizontal cross-sectoral linkages between the forest sector and other sectors, at the global, regional, national and local levels. This will require analysis, and networking to develop linkages between forest policies and wider social, economic and environmental policies; the identification and examination of emerging issues; and making better use of the UNFF's position to contribute to debates taking place in other international forums;
- Strengthen the vertical linkages between forest policy development and dialogue at the global, regional, national and local levels. This will help in the identification of emerging issues and will also help to ensure more rapid transfer of knowledge and experience. Well-thought-out country-led initiatives and regional meetings can be particularly valuable in this respect;
- Create a stronger enabling environment for the implementation of forest policies. This depends on securing political commitment and requires more emphasis on the means of implementation (finance, transfer of environmentally sound technologies and capacity-building);
- Build on the potential of CPF, which is widely recognized for its important role in promoting coordination and cooperation in support of SFM among a large number of forest-related international organizations and processes;
- Improve monitoring, assessment and reporting through processes that are perceived as worthwhile and relevant to countries' needs. C&I can provide a sound framework, provided that countries have the capacity to collate the necessary information.

The five-year review of the IAF provides the international forest community with an excellent opportunity to refine the main functions of the arrangement and decide on future priorities, institutional and working modalities so that it can more effectively address the above issues while remaining adaptive and responsive to emerging new challenges.

Annex I. Abbreviations

ASEAN	Association of Southeast Asian Nations
C&I	criteria and indicators
CBD	Convention on Biological Diversity*
CIFOR	Centre for International Forestry Research*
CITES	Convention on International Trade in Endangered Species
CONCAUSA	Central American–United States of America Joint Accord
COP	Conference of the Parties
COST	EU-sponsored programmes on scientific and technical cooperation
CPF	Collaborative Partnership on Forests*
CSD	Commission on Sustainable Development
ECE	Economic Commission for Europe
ECOSOC	Economic and Social Council of the United Nations
EU	European Union
EUROSTAT	EU Statistical Office
FAO	Food and Agriculture Organization of the United Nations*
FERN/FPP	Forests and the European Union Resource Network/Forest Peoples' Programme
FLEG	Forest Law Enforcement and Governance
FLEGT	Forest Law Enforcement, Governance and Trade
FRA	Global Forest Resources Assessment
GEF	Global Environment Facility*
GFIS	Global Forest Information System
IAF	International Arrangement on Forests
ICRAF	World Agroforestry Centre*
IFF	Intergovernmental Forum on Forests
IPF	Intergovernmental Panel on Forests
ISO	International Organization for Standardization
ITTO	International Tropical Timber Organization*
IUCN	World Conservation Union*
IUFRO	International Union of Forestry Research Organizations*
MCPFE	Ministerial Conferences on the Protection of Forests in Europe
MEA	multilateral environmental agreement
nfp	national forest programme
NGO	non-governmental organization
NTFP	non-timber forest products
ODA	official development assistance
OP	GEF Operational Program
PROFOR	Program on Forests (hosted by the World Bank)
PRSP	Poverty Reduction Strategy Paper
SADC	Southern African Development Community
SFM	sustainable forest management
TRFK	traditional forest-related knowledge
UNCCD	United Nations Convention to Combat Desertification*
UNDP	United Nations Development Programme*
UNEP	United Nations Environment Programme*

UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change*
UNFF	United Nations Forum on Forests*
WSSD	Wold Summit for Social Development
WTO	World Trade Organization

*CPF members are CIFOR, FAO, ITTO, IUFRO, UNDP, UNEP, ICRAF, the World Bank, IUCN and the secretariats of the CBD, GEF, UNFCCC, UNCCD and UNFF.

Annex II. Sources of information

1. Voluntary reports to UNFF and questionnaire responses

Name of respondent	*Voluntary reports to UNFF sessions*				*Questionnaire response, 5th session*
	2nd	*3rd*	*4th*	*5th*	
Algeria		√	√	√	
Australia			√		
Austria	√	√	√	√	
Belgium	√			√	
Benin				√	
Bulgaria				√	√
Burkina Faso				√	
Burundi		√			
Cambodia	√	√		√	
Canada		√	√	√	√
China		√			
Colombia		√		√	√
Congo				√	√
Croatia		√	√	√	
Cyprus			√	√	
Czech Republic		√		√	
Democratic Republic of the Congo			√		
Democratic People's Republic of Korea		√			
Denmark			√	√	
El Salvador			√	√	
Finland	√	√	√	√	
France				√	
Germany	√	√	√	√	
Greece				√	
Guatemala				√	
Guyana			√		
Honduras			√		
Hungary		√	√	√	√
India		√		√	
Indonesia			√	√	
Iran (Islamic Republic of)	√			√	
Ireland			√		

Name of respondent	*Voluntary reports to UNFF sessions*				*Questionnaire response, 5th session*
	2nd	*3rd*	*4th*	*5th*	
Italy		√	√	√	
Japan	√	√	√		
Kenya		√			
Lebanon		√		√	
Lesotho		√		√	
Lithuania			√	√	√
Luxembourg				√	√
Madagascar				√	
Malawi				√	
Malaysia		√		√	√
Mauritius	√	√		√	
Mexico	√	√	√	√	
Myanmar				√	√
Nepal		√			
Netherlands		√		√	
New Zealand	√	√	√	√	
Norway	√	√	√	√	√
Pakistan		√		√	
Peru			√	√	
Philippines		√		√	
Poland		√	√	√	
Portugal	√	√			
Republic of Korea		√	√	√	√
Romania				√	√
Russian Federation			√	√	√
Senegal				√	√
Serbia and Montenegro		√	√	√	
Slovakia				√	
South Africa			√		
Spain		√		√	
Sudan			√	√	
Sweden	√	√	√	√	
Switzerland		√	√	√	√
Thailand				√	
Togo				√	√
Turkey			√	√	√
Ukraine		√	√		
United Kingdom	√	√	√		
United States		√	√	√	
Uruguay			√		
Venezuela				√	
Viet Nam				√	
European Union		√			√
CPF (joint)				√	√

Name of respondent	*Voluntary reports to UNFF sessions* 2nd	3rd	4th	5th	*Questionnaire response, 5th session*
CPF Frameworks	√	√	√	√	
CPF member: FAO				√	
CPF member: ITTO				√	
CPF member: IUFRO				√	
CPF member: UNEP				√	
Forest-related process: MCPFE					√
Major group representatives					
Children and Youth					√
Confederation of European Forest Owners					√
FERN & Forest Peoples Programme (FPP)					√
Women					√
Workers and Trade Unions					√

2. Reports of the Secretary-General

Review of the effectiveness of the international arrangement on forests (E/CN.18/2005/6)

Linkages between forests and the internationally agreed development goals, including those contained in the Millennium Declaration (E/CN.18/2005/7)

Review of progress and consideration of future actions (E/CN.18/2005/8)

Traditional forest-related knowledge (E/CN.18/2004/7)

Social and cultural aspects of forests (E/CN.18/2004/8)

Forest-related scientific knowledge (E/CN.18/2004/9)

Monitoring, assessment and reporting, concepts, terminology and definitions (E/CN.18/2004/10)

Criteria and indicators of sustainable forest management (E/CN.18/2004/11)

Forest health and productivity (E/CN.18/2003/5)

Economic aspects of forests (E/CN.18/2003/7)

Maintaining forest cover to meet present and future needs (E/CN.18/2003/8)

Rehabilitation and restoration of degraded lands and the promotion of natural and planted forests (E/CN.18/2002/3)

National forest programmes (E/CN.18/2002/4)

Trade and sustainable forest management (E/CN.18/2002/5)

Combating deforestation and forest degradation (E/CN.18/2002/6)

Rehabilitation and conservation strategies for countries with low forest cover (E/CN.18/2002/7)

Monitoring, assessment and reporting, including concepts, terminology and definitions (E/CN.18/2002/8)

Forest conservation and protection of unique types of forests and fragile ecosystems (E/CN.18/2002/9)