UNEP

CBD

CONVENTION ON BIOLOGICAL DIVERSITY

Distr.
GENERAL

UNEP/CBD/COP/7/INF/7
15 December 2003

ORIGINAL: ENGLISH

CONFERENCE OF PARTIES TO THE
CONVENTION ON BIOLOGICAL DIVERSITY
Seventh meeting
Kuala Lumpur, 9-20 and 27 February 2004
Item 17 of the provisional agenda*

FOREST BIOLOGICAL DIVERSITY

Synthesis of information contained in voluntary reports on implementation of expanded programme of work on forest biological diversity

Note by the Executive Secretary

I. INTRODUCTION

1. At its sixth meeting, in decision VI/22, the Conference of the Parties adopted the expanded programme of work on forest biological diversity, as contained in the annex to decision VI/22, on the basis of the Recommendation VII/6 of the seventh meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA).

2. In paragraph 27 of decision VI/22, the Conference of the Parties agreed that a voluntary thematic national report would be called for in relation to implementation of the expanded programme of work on forest biological diversity by Parties, to elicit information on:

(a) Priority actions that Parties have identified under the programme of work;

(b) Successes in implementing the programme of work;

(c) Challenges and impediments to implementing these priority actions, and as appropriate, the programme of work.

3. Also in paragraph 27 of decision VI/22, the Executive Secretary was requested to prepare a format for that thematic national report for approval by the Bureau of the Conference of the Parties, after consultation with the national focal points and the Bureau of the Subsidiary Body on Scientific, Technical and Technological Advice. In addition, Parties were urged to submit the thematic national report by the seventh meeting of the Conference of the Parties.

* UNEP/CBD/COP/7/1 and Corr.1.

/…

For reasons of economy, this document is printed in a limited number. Delegates are kindly requested to bring their copies to meetings and not to request additional copies

4. Following the request above, the Executive Secretary had developed a draft format for the voluntary thematic national report and circulated it for consultation with the national focal points and the Bureau of the Subsidiary Body on Scientific, Technical and Technological Advice. The format was approved by the Bureau of the Conference of the Parties in June 2003 and the approved format was circulated to all national focal points immediately. The format in the other UN languages was subsequently posted on the website of the Convention.

5. It should be noted that paragraph 21 of decision VI/22 also requested Parties to report on progress in implementing relevant objectives and related activities of the expanded programme of work on forest biological diversity, through their national reports. In paragraph 22, the Executive Secretary was requested to develop a format for the section on the implementation of the expanded programme of work on forest biological diversity in the third and subsequent national reports in collaboration with the Collaborative Partnership on Forests (CPF) members, taking into consideration the need to minimize the reporting burdens on Parties and the reporting under the United Nations Forest Forum and other international mechanisms.

6. To address the requests above, efforts were made by the Secretariat to develop two sets of questionnaire simultaneously for the voluntary thematic national report and a section in the third national report to allow Parties to use both reports to report comprehensively on their implementation of the programme of work, while avoiding possible overlaps between the two reports considering there is a short interval between the voluntary report and the third national reports. Meanwhile, the Secretariat had actively participated in the task force established by CPF on harmonizing and streamlining forest-related reporting. The outcome of the task force has not been reflected in the draft format since the task force are still working on its recommendations in this regard. However, efforts were made to minimize the reporting burdens on Parties by reducing the number of questions relating to the programme of work in both the voluntary report and a section in the third national report on the implementation of the programme of work.

7. As approved by the Bureau of the Conference of the Parties, Parties were invited to submit their voluntary thematic national reports on the implementation of the expanded programme of work on forest biodiversity by **30 September 2003**. By that date, only two voluntary reports had been received respectively from Argentina and Denmark. As of 15 November 2003, a total of 13 reports had been received. The following synthesis was prepared on the basis of the voluntary reports from Argentina, Austria, China, Denmark, Estonia, Finland, Germany, Ireland, Norway, Sri Lanka, Sweden, Switzerland and the United Kingdom.

8. All the reports received were posted on the website of the Convention and can be accessed at www.biodiv.org/world/reports.aspx?type=vfe.

9. This note is prepared by the Executive Secretary pursuant to paragraph 27 of decision VI/22, which urged Parties to submit the voluntary thematic report by the seventh meeting of the Conference of the Parties. It is understood that relevant information contained in the voluntary thematic reports should be made available to the Conference of the Parties for discussing relevant issues related to the expanded programme of work on forest biological diversity. Section II of this note presents a brief analysis of the limitations of and approaches used for this synthesis; Section III presents a synthesis of information contained in the voluntary thematic reports. For ease of reference, the questionnaire for a voluntary thematic report on implementation of expanded programme of work on forest biological diversity is contained in the annex to this note.

II. LIMITATIONS OF AND APPROACHED USED FOR SYNTHESIS OF INFORMATION CONTAINED IN VOLUNTARY THEMATIC REPORTS

10. It should be noted that the following analysis is based on 13 reports only. Obviously, the small number of voluntary thematic reports received poses great difficulty in drawing meaningful conclusions about the status and trends of the implementation of the expanded programme of work on forest biological diversity as well as relevant actions taken at the national, regional and global levels. In addition, this is made even more difficult by the inadequacy of information provided by some Parties in response to some questions.

11. It should be noted that in the synthesis below, in cases that some countries share commonalities in some priority actions, successes and impediments, a summary would be presented. In cases where some countries have some unique or particular circumstances, relevant information will be presented on a country-by-country basis.

III. SYNTHESIS OF INFORMATION CONTAINED IN VOLUNTARY THEMATIC REPORTS

3.1. Priority actions identified by Parties to implement the programme of work

12. The responses to question 1 vary among the reporting countries. A few countries indicated that work was underway to identify priority goals and actions for implementing the expanded programme of work on forest biodiversity. Some countries reported that priorities for conservation and sustainable use of forest biodiversity had been incorporated in their environmental and/or biodiversity strategies and action plans, including a national forest programme or policy. A few countries have identified specific targets and priority actions for implementing the programme of work on forest biological diversity adopted under the Convention.

13. **Austria** indicated that the National Commission on Biodiversity was carrying out the process of setting up priority goals, objectives and activities for implementing the expanded programme of work on forest biodiversity in order to include them in the National Strategy on Biodiversity and the Austrian Forest Dialogue which was established to elaborate a National Forest Programme. **Finland** also indicated that the assessment of priorities for implementing the expanded programme of work was underway. A preliminary assessment undertaken by Finland shows that most of the proposed activities in the expanded programme of work are of high or medium relevance to Finland.

14. **China** indicated that it had identified the goal by increasing the number of forest reserves to 2,000 by the year 2050, with the total area covered by the forest reserves accounting for 16% of China's total land area and 85% of national key wild plants and animals covered by these reserves. China also reported on its recent efforts in this field. From 1991 to the end of 2002, China had increased the number of nature reserves of various categories from 708 to 1,757, with the coverage increased from 56.06 million hectares to 132.90 million hectares. China had also been implementing a programme of work to rescue those endangered species, which had produced obvious results which were indicated by the increasing number of some endangered species in China.

15. **Denmark** indicated that its priorities had been mainly laid down in the National Forest Programme, a process that had been initiated before the sixth meeting of the Conference of the Parties and finalized shortly after that, in June 2002. Denmark also indicated that the further identification of priorities in this field would be based on the national biodiversity strategy and action plan, which was recently revised and fully coordinated with the National Forest Programme. In addition, Denmark attached to its thematic voluntary report a list of both high and low priority activities it had identified to implement the expanded programme of work. Out of a total of 130 activities listed in the expanded

programme of work, Denmark had identified 92 activities as high priorities for implementation. For specific information, the Danish voluntary thematic report can be accessed at www.biodiv.org/world/reports.aspx?type=vfe&alpha=D.

16. **Germany** indicated that it had undertaken an analysis of the relevance of the proposed activities to specific national conditions and of the degree to which relevant activities had been already covered by the existing programmes and initiatives. In the forest sectoral strategy whose implementation had started in 2000, 11 priorities were identified for the implementation of the Convention on Biological Diversity, specifically:

- Monitoring the state of forest biodiversity;
- Reducing external threats to forest biodiversity;
- Implementing the concept of ecological silviculture;
- Improving conditions for timber utilization;
- Regulating game populations;
- Carrying out conservation measures;
- Carrying out forestry measures in a way compatible with the ecosystem;
- Continuing and developing measures for conservation, promotion and sustainable use of genetic diversity of forest trees and shrubs;
- Developing economic incentives for the conservation and development of biodiversity in private and local forests;
- Continuing and developing public relations and environmental education;
- Carrying out research projects on forest biodiversity.

17. **Ireland** has identified the following as its priorities for implementing the expanded programme of work:

- Implement the Forestry Acts 1946 and 1988, the Wildlife Act 1976 and 2000, and relevant EU Directives;
- Identify and give statutory protection to the most valuable semi-natural woodlands;
- Promote and implement the Native Woodland Scheme to conserve and expand Ireland's native woodland;
- Ensure that sustainable forest management is the core of forest planning and operations (Ireland has developed the Irish National Forest Standard);
- Implement Forest Biodiversity Guidelines (2000) and the Code of Best Forest Practice (2000) for all forest types and all forest operations;
- Adapt the forest inventory to include biodiversity;

- Develop an inventory and classification of broadleaf woodlands;
- Afforestation to consist of 30% broadleaf by 2006;
- Encourage local provenances of native species;
- Review and upgrade forest legislation as appropriate to provide for conservation and sustainable use of biodiversity;
- Expand research to obtain information on biodiversity of plantation forests and semi-natural woodlands.

18. **Poland** indicated that its priorities were included within the framework of Programme Element 1 of the expanded programme of work. Poland is especially interested in implementing the activities identified under Goal 1, which are related to the development of the ecosystem approach to the management of all types of forests. The activities identified under the Objective 1 of Programme Element 1 are very high on the list of priorities for Poland. However, other goals and objectives are also important for the Polish forestry.

19. **Sri Lanka** has identified the following as its priorities for implementing the expanded programme of work:

- Habitat mapping; biodiversity survey and development of action plan for endemic species conservation (The ecosystem approach has been included in the TOR for ongoing revision of the Biodiversity Conservation Action Plan);
- Promote activities that minimize the negative impacts of forest fragmentation, including afforestation, forest restoration, watershed management;
- Develop and implement strategies at regional and national level to mitigate the impacts of invasive alien species, including through strengthening quarantine regulation;
- Improve the knowledge of IAS, public education and awareness;
- Promote practice of fire prevention and control;
- Determine the conservation needs of threatened and endemic species;
- Ensure adequate and effective networks of protected areas for management of protected areas and conservation of wildlife;
- Undertake surveys and demarcation of all natural forest areas under the Forest Resources Management Project.

20. **Sweden** indicated that it had not identified priority goals, objectives and activities for implementing the expanded programme of work. However, while identifying specific targets for the implementation of its Environmental Quality Objectives, Sweden has identified the following interim targets for the environmental quality objective for the forest called “Sustainable Forests”:

- A further 900,000 hectares of forestland of high conservation value will be excluded from forest production by the year 2010.

- By 2010 the amount of dead wood, the area of mature forest with a large deciduous element and the area of old forest will be maintained and increased by (i) increasing the quantity of hard dead wood by at least 40% throughout the country and considerably more in areas where biodiversity is particularly at risk; (ii) increasing the area of mature forest with a large deciduous element by at least 10%; (iii) increasing the area of old forest by at least 5%; and (iv) increasing the area regenerated with deciduous forest.

- By 2010 forestland will be managed in a way to avoid damages to ancient monuments and to ensure that damages to other known cultural heritages are negligible.

- By 2004, an action plan will be developed for threatened species that are in need of targeted measures.

21. **Switzerland** indicated that it had a long tradition of preserving and managing forest biodiversity, which is indicated by the legal requirement for close-to-nature forest management. Switzerland also indicated that an assessment was underway to identify priority goals, objectives and activities for implementing the expanded programme work, in conjunction with the assessment of the IPF/IFF Proposals for Actions.

22. **The United Kingdom** indicated that an exercise was underway to evaluate the current level of activity relevant to the expanded programme of work on forest biological diversity, which will support the identification of key priorities and future action. Although formal priorities have not yet been identified within the context of the expanded programme of work, priorities have been agreed for forest biodiversity conservation within the context of the UK Biodiversity Action Plan. In addition, priorities have been identified for action for biodiversity within country forestry strategies in the United Kingdom.

3.2 Successes in /impacts of implementation of the programme of work

23. From the responses to Question 2, only a few countries were of the view that some of their activities to implement the expanded programme of work had produced some impacts. Some countries were of the view that it was premature to assess any impacts of implementation considering that the expanded programme of work was adopted only at COP 6 or that some domestic programmes established in light of the expanded programme of work have just started. Some countries indicated that successes in implementing the programme of work were reflected in the responses to the questions designed to assess the implementation of various objectives in the expanded programme of work. So the synthesis below of relevant information concerning the successful implementation of 27 objectives by various reporting countries also constitutes a part of success stories in the implementation of the programme of work.

24. **Denmark** indicated that it had achieved some successes in preventing and mitigating losses due to fragmentation and conversion to other land uses (Programme Element 1, Goal 2, Objective 6), as a result of centuries of efforts in promoting afforestation programmes. Since 1989, the afforestation programme has been intensified and based on integrated land use planning, taking into account economic, social/recreational and environmental concerns and opportunities. This has been achieved through state forest plantation and mainly incentives provided to private landowners. Another contribution is from the establishment of wind mantles on arable land. In doing the above, incentives are given to the use of domestic species and a mixture of species, which benefit biological diversity. The implementation of the above programmes has resulted in significant improvement for wild flora and fauna, including those important for forest biodiversity. These efforts have partly reduced the negative impacts caused by the deforestation and fragmentation of forests and other natural sites in the open land. Internationally, Denmark has provided technical and financial support to some countries for the development of some national action plans for conservation and sustainable use of forest genetic resources, including Sahelian African countries, East and South African countries, some Pacific and Central American countries.

25. One success story provided by **Estonia** is the implementation of the Woodland Key Habitats Process in Estonia. This process was initiated by the Estonian Forestry Development Programme and supported by the Estonian Forest Policy and the Forest Act. Drawing upon the Swedish experience in this field, this process was launched as a joint Estonian-Swedish project to assess the distribution of high-value forest habitats in Estonia. The main outcome of the project was a detailed and illustrated inventory of woodland key habitats in Estonia, including area, number and types of habitats, elements, indicator species and habitat specialists.

26. **Ireland** cited a number of examples indicative of its success in implementing the expanded programme work. First, Ireland has taken measures to ensure that field officers, inspectors and staff of the Forest Service, the National Parks and the Wildlife Service comply with relevant legislation. Secondly, Ireland has developed the Native Woodland Scheme, which included a successful training and publicity programme. It was preceded by the People's Millennium Forests, which included an outreach programme and a very effective publicity programme. Thirdly, Ireland is implementing the Forest Biodiversity Guidelines for all operations, particularly in plantation forests. In addition, Ireland is developing a national forest inventory, including a component on forest biodiversity. Ireland also aims to increase broadleaf afforestation to 30% by the year 2006.

27. **Poland** indicated that it had elaborated in its National Forestry Policy the main principles for sustainable forest management, including provisions relating to forest biodiversity. Poland was of the view that its NFP was not only consistent with the expanded programme of work but also with the international agreements adopted by the Ministerial Conference on the Protection of Forests in Europe.

28. One example of success provided by **Sri Lanka** is the National Conservation Review (NCR) undertaken by the Forest Department of Sri Lanka with the technical assistance from the World Conservation Union (IUCN). The review constituted a systematic assessment of biodiversity in the natural forests of the country. Although the biodiversity assessment was restricted to woody plants, vertebrates, molluscs and butterflies, the NCR is hailed as one of the most detailed, comprehensive and innovative evaluations of its kind carried out on a countrywide scale to date. In addition to valuable records of the species assessed, the review has also revealed critical gaps in biodiversity and hydrology conservation, even though Sri Lanka has established an extensive network of protected areas.

29. **Switzerland** indicated that it had made a lot of achievements in the past two decades in the management and preservation of forest biodiversity, such as close-to-nature forest management. One success story provided by the **United Kingdom** is the implementation of major programmes to restore ancient woodland to native tree species.

3.3 Challenges/impediments to the implementation of priority activities

30. Only a few countries provided some further comments on the challenges or impediments they faced in the implementation of the priority actions they had identified to implement the expanded programme of work. Comments vary from country to country, however, a few countries consider constraints in financial, human and technical resources as main impediments for their actions in this field.

31. **China** considered population pressure as one of its major challenges to forest resources management. In particular, some unsustainable human activities bring severe threats to forest biodiversity. Secondly, the activities such as the unregulated hunting and exploitation of medicinal herbs and other economic plants have been identified as key factors to cause the loss of biodiversity. Thirdly, the excessive deforestation has had serious impacts on loss of biodiversity, such as shrinking of forest habitats for some wild flora and fauna and reduction in forest types. Fourthly, the increasing forest fires, pests and diseases in recent years are also identified as one of main threats to conservation of forest biodiversity. Finally, the practice of plantations currently followed has led to destruction of the natural forests with abundant biodiversity and reduction in types and structure of forests, which have caused

severe losses of forest biodiversity. The impacts of environmental pollution on forest biodiversity are also identified as one threatening factor.

32. **Denmark** indicated that limited resources were a common problem for state forest and private owned forests, which makes it necessary to identify priorities for implementation. For forest biological diversity, one challenge may be the priority level attached by some owners of private owned forests. **Estonia** indicated that one of its challenges would be to achieve the goals already set for increasing the area of protected forests and the number of species protected. Other challenges for Estonia include updating the forest inventory in light of the land reform, establishing proper support structures for private forest owners, introducing effective protection measures in light of further assessment of the protection value of forests and establishment of a more effective system of environmental planning and monitoring. In addition, the lack of an integrated plan of implementation measures was considered as a factor to delay the implementation of the Estonian Forest Policy.

33. **Germany** indicated that the problems in implementing the programme of work arose partly from methodological and economic constraints. The methodological constraints are mainly in the evaluation of biodiversity. There is a need to improve the integration of forest biodiversity considerations into other sectoral policies in order to reduce adverse impacts from other sectors on forest biodiversity. **Poland** pointed out that one of the most important challenges would be to further improve sustainable forest management. **Sri Lanka** cited financial constraints, lack of technical capacity, and shortage of trained manpower and poor participation of other relevant departments as main impediments to successful implementation of the activities for implementing the programme of work. **Switzerland** was of the view that the overlaps and duplications in the current international processes related to forest presented challenges for small countries like Switzerland in the identification and implementation of priorities.

34. **The United Kingdom** reported that inadequate deer management over many areas was a threat to maintaining biodiversity in forests. In addition, low timber prices provide a challenge to generating income to positively manage woodland for biodiversity including maintaining cultural practices that have contributed to maintaining forest biodiversity.

3.4 Collaboration with other Governments and regional and international organizations and processes to implement regional or international activities in the expanded programme of work

35. The additional information provided in response to Question 4 mostly covered the cooperative activities undertaken by various reporting countries to implement the programme of work in general, without being restricted to the regional or international activities identified in the expanded programme of work.

36. A number of European countries, such as **Austria, Denmark, Finland, Germany, Ireland, Poland, Sweden, Switzerland and the United Kingdom** indicated that some collaborative activities were undertaken within the framework of the Ministerial Conference of the Protection of Forests in Europe (MCPFE) and the processes such as “Environment for Europe” and the Pan-European Biological and Landscape Diversity Strategy (PEBLDS). **Austria and Denmark** reported that they had signed the recent Vienna Resolution 4 under MCPFE, which strives for coordinated implementation among member states of the MCPFE of the expanded programme of work on forest biodiversity under the Convention on Biological Diversity. This resolution also contains a framework for cooperation between MCPFE and “Environment for Europe” Process through the Pan-European Biological and Landscape Diversity Strategy (PEBLDS).

37. **China** indicated that in recent years, it had strengthened cooperation with many countries and international organizations to promote the conservation and sustainable use of forest biodiversity. China has been undertaking bilateral cooperation with countries such as Austria, Australia, Canada, Japan, India,

Russia and USA in the field of nature reserves, which aim to improve the management level and techniques of nature reserves in China. China has also been collaborating with some international organizations such as the World Bank, UNDP, and WWF in promoting the conservation and sustainable use of forest biodiversity. With the assistance of UNDP and FAO, China has developed national and local indicators and criteria consistent with those formulated by the International Tropical Timber Organization (ITTO), the Montreal Process and the new Regional Initiative for Dry Forests in Asia.

38. **Denmark** has been participating in a number of international forums where forest biodiversity is either a key issue or an integral part of relevant issues, including UNFF, CBD, UNFCCC, UNCCD, FAO, ITTO. Denmark actively participates in the Nordic Council of Ministers, the Baltic 21 Forest Sector as well as their jointly established Consultation Committee for Agriculture and Forestry. **Estonia** indicated that it was involved in a limited collaboration with some of its neighbouring countries such as Sweden and Denmark, as well as in some regional initiatives such as Baltic Environment Forum, Agenda 21 for the Baltic Sea Region

39. **Germany** provided detailed information on various cooperation activities in this field. In addition to regional cooperation mentioned in paragraph 36 above, Germany has been undertaking extensive collaboration in the activities such as establishment of ecological corridors at national and regional levels (e.g. EU habitat and birds directives), development of a holistic framework for conservation and management of forest genetic resources (e.g. participation in the European Forest Genetic Resources Programme), development and implementation of conservation strategies for endemic and threatened species for global or regional application. Germany has been providing technical and financial support through bilateral and multilateral channels to the forest-related activities in various countries, some of which are directly related to some activities identified in the expanded programme of work. For example, programme element 2 (institutional and socio-economic enabling environment) is a crucial part of German development cooperation in the field of forest biodiversity. As part of the activities in implementing objective 4, goal 1, programme element 2, Germany supports the development of the European Union Action Plan on Forest Law Enforcement, Governance and Trade (FLEGT) to combat the illegal production and trade in timber and wood products by supporting the establishment of administrative and legal systems and governance in wood-producing countries, and controlling the illegal trade in wood and wood products, including measures taken by wood-importing countries. Support to developing countries for their efforts in forest conservation and sustainable use has been and continues to be a major part of German development cooperation programmes. Since 1985, Germany has supported more than 300 projects worldwide which contribute to the conservation and sustainable use of forest biological diversity. Areas of technical cooperation include nature and resource conservation, sustainable use of forest biodiversity and social forestry, improvement of capacity in partner countries, knowledge and technology transfer. Germany has been cooperating with some international NGOs such as IUCN, WWF in implementing some projects in the field of protected areas management and environmental education. German development cooperation is devoting increasing attention to the support of regional processes and partners in the field of sustainable forest development, with particular focuses on three regions, namely Congo Basin, Southeast Asia and Amazon Basin.

40. **Ireland** mentioned that it played an active role in the Cost Action Programme by getting involved in the Cost E4 Forest Reserves Research Network, Databank of Forest Reserves, Cost Action E25 (establishment of a database for forest ecosystem research sites and Cost Action E27 (protected forest areas). Ireland also participates in the establishment of the regional network of NATURA 2000 sites by having established special areas of conservation and special protected areas in Ireland. In addition to regional cooperation through MCPFE, **Poland** also participates in other regional and international cooperation in various forums and organizations, such as OECD, the Timber Committee of UNECE, the European Forestry Commission of FAO, the International Union of Forest Research Organizations (IUFRO), and the European Forester's Union. **Sri Lanka** is collaborating with IUCN in the implementation of several activities identified in the expanded programme of work, such as mitigating impacts of invasive alien species and conservation of threatened species. **The United Kingdom** through

the Department of International Development is working with a broad range of partners to address the issue of Forest Law Enforcement and Governance. The Forestry Commission of the UK is collaborating on a number of projects related to forest biodiversity with partners in Europe, including through the European Union and the MCPFE as well as through implementation of the European Union Habitats and Species Directives and cooperation on protected forest sites through the EU Cost programme. The United Kingdom also reported on a cooperative project with Belize on the conservation and sustainable use of the diversity of Mayan forest habitats, through various activities undertaken in the implementation of the project.

3.5 Implementation of the 27 objectives identified in expanded programme of work

3.5.1 Programme element 1. Conservation, sustainable use and benefit-sharing

Development of practical methods, guidelines and/or indicators to apply the ecosystem approach in relation to sustainable forest management

41. Several Parties mentioned existing approaches and guidelines, which have not *per se* been developed to apply the ecosystem approach, but which can be regarded as contributions to the implementation of the ecosystem approach within forestry (**Austria, Denmark, Poland**), or which are seen as partly and indirectly conform with the ecosystem approach (**Estonia, Germany, Ireland**). **China** is in the process of developing guidelines and indicators for the ecosystem approach, while **Sri Lanka** is in the process of introducing a "bio-regional" concept. One case study undertaken by **Finland** described the landscape ecological forest planning method, which was designed for applying the ecosystem approach in Finland. Meanwhile, Finland indicated that a comprehensive set of practical guidelines and indicators on sustainable forest management had been developed and were being implemented. The **German** Federal Agency for Nature Conservation is planning to support the development and implementation of the ecosystem approach, as defined by the CBD, in selected forest biosphere reserves. In **Ireland**, the ecosystem approach is explicitly implemented within the "Native Woodland Scheme".

42. **Poland** has recently started the implementation of the V4 Resolution adopted at 4th Ministerial Conference in Vienna (2003) and the Improved Pan-European Indicators for Sustainable Forest Management. Other Parties also mention the Pan-European criteria and indicators for sustainable forest management (**Denmark, Switzerland**). **Sweden** indicated that it was difficult to implement the concept of sustainable forest development (SFM) in privately owned areas. **The United Kingdom** is working towards the adoption of an ecosystem approach to forest management. The ecosystem approach principles are incorporated to a large degree into existing sustainable forestry policies and practice. Forest design and planning systems to accommodate an ecosystem approach have been developed for both state and private forests at woodland and landscape scales. The UK will be revising guidelines for forests in the near future, which is expected that these will relate to the Ecosystem Approach. The UK is cooperating in developing the European Network for Long-term Forest Ecosystem and Landscape Research (ENFORS) of EU COST Programme. And the UK leads a EU Project "European Biodiversity Forum-Implementing the Ecosystem Approach" (BIOFORUM).

43. While most Parties are of the view that their practices of "sustainable forest management" conform to the ecosystem approach, some look at the two approaches in greater detail (**Denmark, Germany** and **Switzerland**) to ensure consistency in the use of terms. The majority of reporting Parties emphasize that sustainable forest management practices are in place.

44. Criteria and indicators relating to national strategies, policies or programmes for sustainable forest management are in place (e.g. **Denmark, Ireland, Poland**) but need further development for the ecosystem approach.

Measures taken to prevent the introduction of invasive alien species that threaten ecosystems, and mitigate their negative impacts on forest biodiversity in accordance with international law

45. A number of reporting countries indicated that they had put in place measures for the prevention and control of alien invasive species (AIS) impacts on forest biodiversity by enforcing quarantine laws, national and regional legislations. For example, **China** has adopted the Law on Quarantine of Imported and Exported Animals and Plants. The **Finnish** Nature Conservation Act restricts the introduction of non-native species into Finland. The revised Plant Protection Act of Finland lays down provisions to prevent the introduction of pests and diseases of plants into Finland. **Ireland, Sweden** and **Switzerland** are implementing the European Union regulations and guidelines for the prevention and control of AIS. **Poland** is enforcing the Nature Conservation Act (1991 with later amendments) the Hunting Law Act (1995, revised in 2002), and the Regulation on Establishment of a List of Game Animals and the Hunting Period for Them (1996, revised in 2001). **Sri Lanka** strictly enforces custom regulations to prevent any unnecessary introductions of AIS and the **Austrian** Forest Act (amended in 2002) restricts a spectrum of potentially invasive tree species.

46. **Austria** and **Sri Lanka** promote activities to raise awareness of the negative impacts of AIS on forest biodiversity using workshops, homepages and guides. **Denmark** has developed networks and websites for controlling and combating alien species. Other important instruments are being used to prevent the introduction of invasive alien species that threaten ecosystems, and mitigate their negative impacts on forest biodiversity, including research, inventorying and monitoring of AIS. **Sri Lanka** has identified the AIS in its jurisdiction. **The United Kingdom** indicated that its current measures addressed risk assessments and control of some well-established invasive alien species. The UK is reviewing policies and legislation in this field, incorporating the CBD principles on invasive species agreed at the sixth meeting of the Conference of the Parties and emphasizing comprehensive risk assessments. The programmes for consistent and regular monitoring of the condition of protected sites will provide a more systematic assessment of the invasive species problem. In addition, the conservation agencies of the UK have been working on the impact of invasive species and taking active steps to control invasive species on protected sites. The Department of International Development (DFID) of the UK has supported research on the impact on forest biodiversity of invasive tree species and the development of methods for its control.

Measures taken to mitigate the impact of pollution on forest biodiversity

47. **Austria** reported that its Forest Act contained provisions for preventing forests and forest vegetations from damages of atmospheric pollution. To this end, a forest damage monitoring system has been put in place. The National Environmental Plan has recommended measures to reduce damages to forests caused by atmospheric pollution. Various scientific studies had been undertaken in the past two decades to investigate the impacts of pollution such as acidification on the health and stability of forest ecosystems. Despite considerable progress made, the exact impacts of atmospheric pollution on many groups of species remain widely unknown due to complex chemical synergies and antagonisms, metabolical processes, different reactions of individual species, a large number of chemical substances released. Austria indicated that the levels of emission of many air pollutants affecting forests had been considerably mitigated in the past decades.

48. **China** reported that it had undertaken a preliminary survey on the impacts of acid rain on forest ecosystems and found that environmental pollution, particularly acid rain, heavy metals and pesticide concentration in ecosystems were threatening many species and ecosystems. In addition, acid rain has also caused soil acid and land degradation. However, further studies are needed on the impacts of acid rain on biodiversity and how to mitigate those impacts.

49. **Denmark** indicated that research was under way to increase the understanding of impacts of pollution on forest health. Denmark has participated in the previous European forest health monitoring system and will continue to participate in the new monitoring system called “Forest Focus”. Denmark

will conduct a national forest inventory which include a forest health monitoring system. Both systems address forest health issues related to pollution and climate change. In addition to general environmental measures to reduce industrial pollution, current forest policies are aiming to move towards forest management practices based on near-to-nature principles. **Estonia** indicated that measures had been taken to restore part of the forest land degraded and polluted by oil shale, underground mining, waste disposal of power plants, and chemicals, metals, minerals, wastes and oil used by the military bases.

50. **Finland** indicated that as a result of implementation of various measures to fight air pollution, the emission of a number of air pollutants had decreased substantially, and therefore the impacts of air pollution on forest ecosystems are considered minor and specific forest management practices that are designed to reduce the impacts of changing environmental conditions have not been developed so far. However, in the 1980's Finland undertook a large research project on the effects of acidification on terrestrial and aquatic ecosystems. Since 1985, Finland has also been participating in the International Cooperative Programme on the Assessment and Monitoring of Air Pollution Effects on Forests, which was developed within the framework of the UNECE Convention on Long-range Transboundary Air Pollution (CLRTAP).

51. **Germany** reported that a large number of measures had been taken at national level over the past few decades in order to reduce impacts of pollutants and eutrophication on German forests, including the introduction and further development of the Federal Emission Control Act, the Ordinance on Large Combustion Plants and tax benefits for the use of catalytic converters in cars. Germany has also taken measures to mitigate emission of air pollutants within the framework of the UNECE Convention on Long-range Transboundary Air Pollution, relevant EU regulations and the new German regulation on national emission rates. Germany also mentioned a few specific measures to mitigate impacts of pollution on forests, such as compensatory fertilization by application of lime and stabilizing forest ecosystems by promoting ecological silviculture.

52. **Ireland** indicated that it had comprehensive legislation on control of air, soil and water pollution. Efforts to reduce pollution are ongoing through the integrated pollution control licensing system for pollutant-discharging companies. **Poland** reported that one of the legal measures taken to mitigate the impacts of pollution was maximum allowable amount of air pollutants. The monitoring on a regular basis of negative impacts of pollution on forest biodiversity is another measure to mitigate the negative impacts of pollution on forests. **Sweden** indicated that it had been combating for decades the impacts of pollution on all ecosystems, including forests. **Switzerland** has adopted the Ordinance on Air Pollution Control that imposes strict limitations on the emission of stationary installations and requirements for fuel quality. Switzerland has also ratified all the Protocols of the Convention on Long-range Transboundary Air Pollution.

53. **The United Kingdom** reported that the monitoring of pollution undertaken by the Environment Agency included the evaluation of impacts on habitats. There has been recent work on redefining critical loads for different habitat types. The Air Pollution Information System UK provides advice on critical load and levels of a number of air pollutants for a range of terrestrial habitats and selected species groups. Further development of the system is under way, including the addition of new pollutants and a link to biological monitoring protocols. The UK National Air Quality Strategy established standards for the protection of vegetation, in addition to the protection of human health. Within the UK, the environment protection agencies are required by the EC Habitat Directives to undertake a one-off review of existing permissions for industrial emissions, which aims to ensure that existing emissions are not having an adverse effect on the integrity of any Special Area of Conservation or Special Protected Area. Research is underway to assess the impacts of pollution on protected sites through condition assessment of Sites of Special Scientific Interests (SSSIs).

Measures to mitigate the negative impacts of climate change on forest biodiversity

54. The **Austrian** Climate Strategy to meet the Kyoto targets contains a cluster of forest-related measures in order to increase the overall stability and adaptability of forest ecosystems. Austria has also undertaken a number of studies for the purpose of developing priority restoration measures in forests that have shown destabilization symptoms induced by climate change. **Denmark** indicated that research was under way to increase the understanding of impacts of climate change on forest health. The regional and national forest health monitoring systems address forest health issues related to climate change. **Estonia** also indicated that research and monitoring activities were being undertaken to mitigate impacts of climate change on forest biodiversity. The data management system mainly follows the criteria and indicators recommended by the Ministerial Conference on the Protection of Forests in Europe and the FAO Framework of Global Forest Resources Assessment. **Finland** reported that a lot of research had been undertaken on the issues related to forest biodiversity and climate change, including the interrelationship between climate change and forest biodiversity. The SilviStrat project funded by the EU studies adaptive management strategies to enhance carbon sequestration in the European forests and to mitigate adverse impacts of global climate change on forests.1

55. **Germany** reported that research activities were undertaken by various institutions on the possible impacts of climate change on forests and forest biodiversity. Germany also undertook an in-depth study of the impacts on forests and forestry in Germany and of options for actions while implementing the project on "Forests and Forestry in Germany in the Context of Global Change (1997-2001)". The research areas under the German Climate Impact Programme also covered the impacts of climate change and analysis of the resilience of different systems. The forest management programmes launched by the federal and local governments are designed to improve the capability of forests to adapt to future climate conditions in Germany. Germany plays a leading role in the planning and coordination of the monitoring activities initiated under the International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests, which include indicators that allow conclusions to be drawn vis-à-vis the effects of climate on the condition and development of European forests. In addition to adaptation measures such as silvicultural measures, Germany is also pursuing an active policy to reduce emissions of greenhouse gases while implementing the United Nations Framework Convention on Climate Change.

56. **Ireland** indicated that its National Climate Change Strategy had included a commitment to afforestation. **Poland** reported that its forest monitoring programme was introduced in 1989 and extended in 1995 to cover the changes in the level of threats to forest ecosystems posed by environmental factors. Poland has also included the assessment of carbon sequestration in forest ecosystems in its forest monitoring programme. Poland has started elaborating the role of forests in the mitigation of climate change in its National Forest Programme. **Sri Lanka** indicated that some studies on adaptation measures were under way while recognizing that the full impacts of climate change on biodiversity are not clear at this stage. **The United Kingdom** indicated that research into modelling the impact of climate change on forest biodiversity was being carried out as part of a wider programme the MONARCH project-Modelling Natural Resources Responses to Climate Change, which is examining the potential impacts of environmental change on conservation of biodiversity. Mitigating impacts is initially focussing on programmes aimed at reversing fragmentation of semi-natural woodlands and increasing connectivity of woodlands in general. More refined responses may be needed in response to modelling research results.

Measures taken to prevent and mitigate the adverse effects of forest fires and fire suppression (where fire is a natural disturbance agent)

57. Some measures to prevent and suppress adverse effects of forest fires are taken by **Austria**, **China**, **Poland, Switzerland** and **Sri Lanka**. **Denmark**, **Finland**, **Germany**, **Ireland**, **Sweden** and **the**

1/ For more information, please see http://www.efi/projects/silvistrat and www.ymparisto.fi/eng/research/projects/finsken/linkit.htm.

United Kingdom do not consider forest fires as a big problem, so normal fire emergency measures are in place but no specific forest policy measures are needed. **Finland** is of the view that forest fires are a natural phenomenon in the succession of boreal forests, which have a good effect on forest biodiversity, and it is necessary to promote prescribed burning in suitable areas. In **Germany** only the Federal State of Mecklenburg-West Pomerania has adopted specific action plans against forest fires: besides organisational measures in case of fire, it also outlines precautionary principles and associated training measures. **Estonia** did not take any measures in this field at this stage.

Mitigating effects of the loss of natural disturbances necessary to maintain biodiversity in regions where these no longer occur

58. **Austria** provided a number of examples of measures that had been taken to mitigate these effects, including:

- Reducing natural flood dynamics of floodplain forests by regulating river systems and building of hydro-electric power plants;

- Establishing a network of nature forest reserves aiming at, inter alia, investigating natural ecological processes and developing methods of close-to-nature silviculture;

- Leaving dead wood in the forests without instantly having to remove it, in accordance with the amended Austrian Forest Act;

- Restoring some of the regulated floodplain forest ecosystems;

- Applying close-to-nature river regulation techniques.

59. **Denmark** reported that sudden natural disturbances were limited to windfall, which is still occurring. A former subsidy scheme including subsidies provided to ditching and drainage has been stopped. Focus is now put on re-establishing wet areas in forests. **Estonia** indicated that important forest elements that ensure conservation of biodiversity such as dead trees had been extensively preserved to maintain forest biodiversity. In addition, a variety of methods simulating natural processes are being identified. **Finland** has studied relevant issues in recent biodiversity research programmes and established many field experiment sites, particularly in protected areas. These activities include both use of prescribed burning and increase of decayed wood in forest ecosystems by various techniques. In the longer term, Finland intends to increase the amount of decayed wood in commercial forests and recommends limited use of prescribed burning for forest generation and enhancing forest biodiversity.

60. **Germany** reported that knowledge was lacking of potential natural disturbance regimes in German forests because it is not possible to make any direct observations on forest dynamics of primary forest in the Central Europe, which has disappeared as a result of a high population density and centuries of multiple and unsustainable use. In the view of Germany, natural disturbances that are considered important for the maintenance of biodiversity include wind throw, flooding, landslides, avalanches and possibly insect gradations following other disturbance events. Germany indicated that the facilitation of natural forest dynamics without human interference is a key objective for some of German protected areas. The research and monitoring undertaken in protected areas help enhance the understanding of the role of natural disturbances in forest ecosystems and of possible ways to mitigate the consequences of their losses. In forests outside protected areas, many principles of ecological silviculture are employed to mitigate the loss of disturbances, e.g. by promoting and using natural processes, prolonging regeneration stages by applying single stem cutting or cutting small areas only or by integrating ageing and disintegration stages as well as a share of dead wood into managed forests.

61. **Ireland** indicated that its Forestry Act and Wildlife Act provided protection to existing woodlands. The Native Woodland Scheme of Ireland places particular importance on connectivity in the

creation of new native woodlands. **Poland** has also established a strong legal and policy basis for protection of forest ecosystems from various human and natural disturbances, such as Forest Act, National Forest Policy, National Programme for Augmenting Forest Coverage, Act on Protection of Agricultural and Forest Lands and the Environmental Protection Law Act. **Sweden** reported that prescribed burning was practiced at a small scale or by some large forest owners at their own cost for the purpose of enhancing biodiversity. **Switzerland** reported that programmes were in place through which riparian forests are restored in order to allow natural disturbances (such as periodic flooding) again. Furthermore, strict forest reserves are established to allow natural processes and successional changes to occur at their natural rate as well as to protect biotic communities and ecological integrity. **The United Kingdom** indicated that the felling system in plantations were incorporating designs to mimic patch fires and windblow and the management of Sites of Special Scientific Interest often involved restructuring to encourage natural structures and processes. Work is under way by the conservation agencies to try to restore and monitor natural disturbance regimes through minimum intervention reserves. The UK is of the view that changes in agriculture and society along with climate change are a bigger threat to current biodiversity than loss of natural disturbances, which happened thousands of years ago in most cases.

Preventing and mitigating losses of forest biodiversity due to fragmentation and conversion to other land uses

62. **Denmark, Germany and Ireland** have established legal frameworks for preventing and mitigating forest biodiversity loss. Meanwhile, **Austria, Poland, Sri Lanka, Sweden and Switzerland** have undertaken some measures for this purpose. **China** and **Estonia** have considered potential measures for preventing conversion of forestlands to other land uses.

Restoring forest biological diversity in degraded secondary forests and in forests established on former forestlands and other landscapes

63. **Austria** has taken a number of measures to restore forest biodiversity in degraded second forests, including undertaking environmental impact assessments for infrastructure projects, conducting case studies to develop recommendations for conservation and restoration of connectivity, identifying supraregional wildlife ecological corridors, developing guidelines for road planners with respect to wildlife passages and granting subsidies for close-to-nature silvicultural measures.

64. **China** has imposed bans on the logging of natural forests, particularly in the upper and middle reaches of the Yangtze River and the Yellow River. Compensational funds are provided to those areas affected by this ban. China has also implemented the project on returning cropland to forest and grazing lands in order to restore forests and grasslands. Subsidies and compensations are provided to those farmers and communities that have returned their land for afforestation and grazing.

65. **Denmark** has put in place guidelines for afforestation that contain provisions for choice of species, silvicultural practice, location, etc. Financial incentives are provided for compliance with the guidelines. Relevant policies, including incentives, are put in place to promote forest management regimes, which are of benefit to development and protection of biodiversity. Denmark is also redrafting its forest act, which contains provisions for protection of forest biodiversity and promote the near-to-nature forest management principles. An action plan for promoting close-to-nature forest management will be implemented in the state forests. **Estonia** indicated that some project-based measures were under development to restore forest biodiversity in degraded secondary forests and in forests established in abandoned farmlands. **Finland** indicated that it had begun restoration of the forests in southern Finland to a state as natural as possible, which will be completed in 2007. In regard to the methods of restoration, Finland reported that on mineral soils restoration was undertaken mainly through prescribed burning, increasing the number of decayed trees and small blanks in the forests, and on marshland ditches were blocked in order to restore hydrological conditions. In some cases some tree stands are removed for restoration.

66. **Germany** reported that the restoration of productive potentials of stands entailed afforestation of fast-growing conifer species, which were suitable for the establishment of closed stands on degraded soil. During the past three decades, measures have been taken in forestry to initiate the transformation of stands towards a higher share of deciduous species. With the introduction of ecological management rules by the local forest authorities, efforts have been intensified to restore forest ecosystems to a more natural state. Some measures contributing to ecological silviculture in private and local forests are funded within the framework of the "Joint Task for Improvement of Agricultural Structure and Coastal Protection".

67. **Ireland** indicated that its Native Woodland Scheme encourages and provides grant aid to the activities to restore forest biodiversity in secondary degraded forests. Poland reported that special programmes on management of former industrial lands included the restoration of forest biodiversity in forests established there. The preservation of degraded secondary forests and forests established on former forest lands and other landscapes is maintained through (i) stand reconstruction in line with the principle of adjusting species composition of stands to habitat conditions; (ii) implementation of the programme for small-scale retention of water in forests; (iii) preventing forest fires; (iv) educational programmes provided to the public, students and visitors.

68. **Sri Lanka** reported that a number of projects undertaken contributed a great deal to the rehabilitation and management of degraded forests, such as cultivation of native tree species in degraded natural forests, integrated management planning. **Sweden** indicated that a part of its forest policy was to restore biodiversity in stands or landscapes where intensive land use has led to species-poor forests. **Switzerland** reported that there was an overall policy goal and long-standing tradition of close-to-nature forest management, which contributes to the prevention of degraded secondary forests.

69. In the **United Kingdom**, there is comprehensive action being taken on the issue of restoration. The restoration of forest biodiversity in plantations on ancient woodland sites (PAWS) is being promoted. The management planning process for Sites of Special Scientific Interest and Special Areas of Conservation identify areas for restoration to native woodland. There is also significant work underway to restore open habitats such as heathland to benefit biodiversity at a landscape level. The agencies of the Forestry Commission are carrying out major restoration programmes in the UK, with some restoration work integrated with the networking efforts to expand areas and reduce woodland isolation. The Forest Research Agency is continuing research on the restoration of native woodlands on ancient woodland sites and the development of biodiversity in plantations of exotic and native species. The UK Forest Partnership for Action, a new partnership within the UK of Government, business and environmental groups to promote sustainable development in the forest sector, both at home and internationally, are committed to the restoration, protection and expansion of native woodlands in the UK as well as to promoting the restoration and protection of forests and their biodiversity globally. The Forestry Commission of the UK has also entered into a global partnership for forest landscape restoration with WWF and IUCN, which is to contribute to building assets and improving prospects for people and nature through restored landscapes, building momentum for restoration with decision-makers, the private sector, the general public and media.

Promoting forest management practices that further the conservation of endemic and threatened species

70. **Denmark, Estonia, Germany, Ireland, Poland** and **Switzerland** are promoting forest management practices that further the conservation of endemic and threatened species. **Sri Lanka** is promoting a ban on deforestation of certain highly threatened tree species. **Austria, Sweden** and **China** have compiled a red list of threatened and endemic species. In Austria there are certain single-species conservation programmes in place in some federal provinces. **Finland** has adopted a law to prohibit the destruction of habitats necessary for the survival of protected species as well as any other actions that may impair their conditions of existence. The **UK** Biodiversity Action Plan has created a process for the conservation of endemic and threatened species with Species Action Plans and Habitat Action Plans. The UK system of protected Sites of Special Scientific Interest includes the locations of most of the UK's

rarest species. The UK also reported on its cooperation with El Salvador in the assessment and monitoring of biodiversity of shade forests and with some African countries in the conservation assessment and recovery planning at a habitat level to enhance the long-term survival of threatened species.

Ensuring adequate and effective protected forest area networks

71. Less than half of respondents have established major networks of protected areas (**Austria, China, Germany, Sweden** and **Denmark**). Twenty per cent of reporting countries have established some protected areas only (**Ireland** and **Poland**). **Estonia, Switzerland** and **Sri Lanka** are in the process of establishing networks of protected areas. Almost a half of the proposed **Finnish** NATURA 2000 network covers forest. An evaluation made of the network indicates that some forest types were underrepresented. An assessment is under way for further needs for forest conservation and studies are being undertaken on ways and means to enhance forest conservation on privately-owned land.

Promoting sustainable use of forest resources to enhance the conservation of forest biological diversity

72. Respondent countries indicated that usually the promotion of sustainable use of forest resources is an overall objective contained in national legislation and strategies for the sustainable management of forests. This is the case for instance of the **Austrian** Forest Act, the **Polish** Act on Forests and Federal Forest Act of **Germany**. The **United Kingdom** Forestry Commission's Woodland Grant Scheme, UK Forest Standard and associated guidelines and training, promote and support sustainable harvesting methods.

73. In general, national forest programmes include a series of measures to promote conservation and sustainable use of forest resources. For instance, the **Danish** National Forest programme includes the establishment of protected areas (10% of the national forest area) and the use of guidelines for sustainable forestry as important means to achieve sustainable forestry. Similarly, in **Ireland**, forest operations must follow guidelines issued by the Forest Service, including the Forest Biodiversity Guidelines, and promote the ecosystem approach. In **Switzerland** guidance is provided by the criteria of ecologically sound forest management contained in the Swiss National Forest Programme.

74. As far as the establishment of protected areas is concerned, **Sri Lanka** has launched the protected area management and wildlife conservation project which will be instrumental to the creation of a system of protected areas that, while protecting biodiversity, will generate employment and income. Also, the Swedish model for the maintenance of biodiversity and sustainable use of forest resources is based on formal and voluntary area protection, reaching the 5-10 % of the total forest area.

75. Other instruments for the sustainable use of forest biodiversity include certification schemes. For instance Austria and Germany consider the implementation of voluntary independent forest certification schemes as a further way to encourage the sustainable use and conservation of biodiversity. The United Kingdom Woodland Assurance Standard (UKWAS) is now well established as a UK wide sustainable forest management accreditation standard which takes into account biodiversity and socio-economic considerations. The Forestry and Timber Association of the UK supports certification to UKWAS standard and encourages its members to meet that standard. The regulation of the size of allowable harvest is another method used to conserve biodiversity, such in the case of **Poland** and **China**. In this latter case it has facilitated the control of over-logging and the conservation of forest resources.

76. **The United Kingdom** also reported on a number of collaborative projects and activities undertaken with other countries. For example, the Department for International Development (DFID) supports the development of certification processes and initiatives and have recently assessed the needs of small scale enterprises in forest management in Mexico, Brazil and Bolivia to participate in certification schemes. DFID funded projects promote indigenous knowledge and sustainable use of non timber forest products (NTFP) with projects, for example, in Central America, Brazil, South Africa and West Africa.

The Darwin Initiative supports projects such as one conserving Kenya's indigenous forest through certification of sustainably sourced woodcarvings. Kew is working with commercial companies on the development of sustainability strategies for the supply of extracts from timber and NTFP.

Preventing losses caused by unsustainable harvesting of timber and non-timber forest resources

77. In most cases, restrictions on clear-cutting and unsustainable harvesting of timber and non-timber forest resources are addressed by National Forest Acts. For instance, the **Austrian** Forest Act forbids clear-cuttings that would permanently reduce soil productivity, influence water regulation in a negative way, enhance soil erosion, or impair the function of protective forests. **Finland** has incorporated the principle of sustainable management and use of timber resources into its forest policy and legislation and implemented the principle throughout all the forest-related programmes and action plans. In addition, the Finnish hunting laws have regulated the taking of game species in accordance with the principle of sustainable management and use of forest resources. In **Germany**, legal provisions on sustainable harvesting are contained in the Federal Forest Act and Forests Acts of Landers. The Forestry Acts control timber harvesting in **Ireland** too. The Act on Forest and the Regulation obligate forest owners to the rational utilization of forest in **Poland**, in a way that can ensure optimal compliance with all forest functions. The **Swedish** Forest Act and the Environmental Code establish binding rules, including obligations on forest regeneration. The **United Kingdom** Government has adopted a timber procurement policy that all central government departments and agencies will actively seek to buy timber and timber products from sustainable and legal sources, for example, those identified under independent certification schemes such as that operated by the Forest Stewardship Council.

78. In addition to national legislation, criteria and indicators for sustainable forest management are often used to avoid unsustainable management practices and to ensure a regular and sustainable yield of those goods and services which society expects. In Austria criteria and indicators contribute to the prevention of losses caused by unsustainable hunting. In Ireland, the Forest Harvesting and the Environment Guidelines ensure that forest harvesting adopts sound planning procedures, operating techniques and control measures to reduce any potentially adverse effects. The Timber Trade Federation in the United Kingdom has adopted a Conduct Assurance Scheme with associated Codes of Conduct and Codes of Practice, which demonstrates the Timber Trade Federation's commitment to delivering quality and service.

79. Other instruments to prevent losses caused by unsustainable uses include the respect of the sustained yield principle, according to which the removal of the resource should not exceed its increment. This is for instance the case of the regulation of Austrian timber resources, or the use of **China**'s forest flora and fauna, to be collected with the assurance that "resource consumption should be lower than that of natural growth". Other countries have also established "no-take" zones, natural reserves where the use of the resource is not allowed. Under the Danish law, in some special protected forest areas, clear cuttings are not allowed. In Sri Lanka, many wet zone forests have been designated as "conservation forests" where no commercial logging is permitted. Nature reserves have also been established in Sweden for this purpose. The importation to the United Kingdom of non timber forest products derived from threatened species listed in the appendices to CITES is prevented through the CITES import licensing process and the need for importing countries to make "no-detriment findings" on the species concerned.

80. Finally, a common concern expressed by many respondent countries is law enforcement. While in Germany the enforcement of laws governing the unsustainable harvesting of timber and non-timber forest resources is considered fairly good, as practices violating current regulations are reported and prosecuted. Illegal logging remains an important issue for Poland. Forest guards in Poland cooperate with police forces and other services in order to prevent illegal activities in forests. The role of forest guard officers has been strengthened in order to assure that illegal activities are identified and prosecuted. In Estonia, violations of forest protection regulations, which are considered the most critical aspect of unsustainable uses of forest biodiversity, are monitored by the Estonian Environmental Inspection.

Measures taken to enable indigenous and local communities to develop and implement adaptive community-management systems to conserve and sustainably use forest biological diversity

81. Although indigenous concerns are not addressed directly by forest legislation and instruments, in general balancing the interests of different users is part of the forest policy processes in many countries. In **Sweden**, for instance, forest management is undertaken through local participation in a multi-stakeholder approach involving the Sami people. In **Austria** there are several examples of participation of local communities in the forest management, e.g. platforms for the management of protected forests, the Austrian Forest Dialogue which shall lead to a National Forest Programme, and the implementation process of Natura 2000 (European Union nature conservation legislation).

82. However, a few countries have clearly addressed concerns of indigenous and local people in some relevant legislations. For example, in **Finland**, the Reindeer Industry Act provides that the State land management authority must negotiate with the Sami before any action is taken that may affect reindeer industry. Another Finnish law concerning state land management states that natural resources management in the Sami homeland area must be done in a way that does not cause harm to the traditional livelihood and culture of the Sami people.

83. **China** encourages minority communities to participate in the conservation of biodiversity. With the assistance of corresponding government departments and international organizations, participatory management approaches have been implemented in some nature reserves where a number of minorities live together. This approach encouraged local communities and women to participate in the management of nature reserves. For example, in 1993, Yunnan province forestry department drew on the experiences of foreign countries, adopted participatory method of community forestry, organized training courses to increase the knowledge and skills of local communities and promoted the participation of local communities in forest biodiversity conservation, expanded income sources of the indigenous communities and raised their living standards. Similarly in **Sri Lanka**, protected area management and wildlife conservation project promoted community strengthening and partnership building around protected areas.

84. Within the **United Kingdom**, the public and local communities are being encouraged to become more involved in all levels of forest decision making, from policy to practical site work. There is considerable involvement of volunteers in woodland management through, for example, the work of the Wildlife Trusts, the British Trust for Conservation Volunteers and other organizations. In addition, the Department for International Development of the United Kingdom has supported work to increase the capacity of indigenous peoples organizations to participate in the development of global forest policy through the Global Forest Coalition.

85. In many cases respondent countries indicated the existence of only a limited number of activities pertaining to the use of traditional knowledge and the involvement of indigenous and local communities in forest management. In general, the issue of participation is considered under other social functions to be ensured, such as the integration of forestry goals with the sustainable development of communities and the closer cooperation with them in the development of local sustainability models.

Development of effective and equitable information systems and strategies and promoting implementation of those strategies for in situ and ex situ conservation and sustainable use of forest genetic diversity

86. **Austria** has adopted a number of measures for in-situ measures, such as establishment and stewardship of the nature forest reserve programme as well as of protected areas. Austria has also undertaken some measures for ex-situ conservation, including gene conservation forests, seed plantations, clone archives, work on forest genetics. Austria has undertaken a comprehensive study on the hemeroby of Austrian forest ecosystems as well as developed and published a Red List of threatened forest biotope types. Austria has collected data on potentially natural forest communities while developing the Austrian Forest Inventory.

87. **China** has established a system of monitoring and assessment of forest resources at national and local levels. China undertakes surveys of forests at national and local levels every five years to gain information on the status and trends of national forest resources, which provides a scientific basis for the development of forest management plans and forest resources management. China has also been conducting monitoring of biodiversity in some forest ecosystem reserves and established biodiversity information management systems for this purpose. Since 1997, China has been developing a national network of information concerning forest pest and disease control, which accelerates the diffusion of relevant information across provinces for the management of forest pests and diseases and provides a sound basis for decision making in this regard.

88. **Denmark** indicated that research was under way to identify genetic variability for important tree species, with coordination undertaken at the EU level or within the framework of the European Forest Genetic Resources Programme.2 Denmark adopted in 1994 the Strategy for the Conservation of Genetic Resources for Trees and Shrubs, which is closely linked to the Strategy for Natural Forests and Other Forest Types of High Conservation Value. The strategy contains a combination of measures for in situ and ex situ conservation, with defined objectives for each species. Danida Forest Seed Centre, in collaboration with FAO, IPGRI, ICRAF, has developed guidelines for in situ and ex situ conservation of forest genetic resources. In addition, Denmark has provided assistance to a number of countries through tree seed programmes, including technical and financial support to specific programmes on in situ and ex situ conservation. 3/

89. **Finland** has adopted a national plant genetic resources programme for agriculture and forestry. Finland has taken measures to secure the genetic resources of main tree species in gene reserve forests and *ex situ* collections. Nature conservation areas and breeding populations of forest tree species complement the network of gene reserve forests. A research project was undertaken on maintenance of genetic diversity in fragmented boreal forests as a part of the Finnish biodiversity research programme. Special conservation programmes have been launched to protect the most threatened ecosystems, such as herb-rich forest conservation programme and programme for protection of old-growth forests. In addition, the Nordic countries have undertaken close cooperation in conservation and sustainable use of genetic resources, which is coordinated by the Nordic Gene Resources Board with the mandate of the Nordic Council of Ministers. Within this framework of cooperation, the Strategy for Conservation of Genetic Resources in the Nordic Region 2001-2004 and the Nordic Network for Forest Gene Conservation have been developed and launched.

90. **Estonia** indicated that insufficient gathering, processing and analysis of forest-related information as well as lack of communication among different organizations dealing with the sustainable management and use of biodiversity had been identified as the main weakness in the forest management. To improve this situation, Estonia has established an integral information system (registry) on forests and forest management. The registry is maintained for access to various interested audiences and updated regularly to meet potential new demands.

91. **Germany** has established a prototype database providing information on conservation of genetic resources of trees and shrub species. 4/ Germany revised in 2000 the forest gene conservation concept. 5/ One priority of the concept is the conservation of genetic diversity *in situ* where it can be integrated into forest management practices. Other elements of the concept include registration and evaluation of forest genetic resources, specific conservation measures for endangered, valuable and rare tree and wood shrub species, research programmes and development of a long-term genetic monitoring system and cooperation with the framework of international conservation programmes. Germany is also actively

2/ See www.ipgri.cgiar.org/networks.euforgen/euf_home.asp.

3/ For more information, please see www.dfsc.dk/index.htm.

4/ The database can be accessed at www.genres.de/fgrdeu.

5/ The concept can be viewed at www.genres.de/fgrdeu/concept/concept_content.htm.

participating in the work of the European Forest Genetic Resources Programme (EUROPEN). One of the outputs produced by the EUROPEN networks are long-term conservation strategies and guidelines for genetic conservation and use of various tree species.

92. **Ireland** reported that there was an information system on some conservation sites such as Special Areas of Conservation, Special Protected Areas and Natural Heritage Areas. The National Forest Inventory also records information on forests in Ireland. The People's Millennium Project promotes the diffusion of relevant information to households. The legislation concerning forest reproductive materials (FRM) ensures the traceability and certification of genetic integrity of such materials. Some Irish universities and research institutions are involved in relevant studies at home and abroad, such as studies on genetics of Irish oak and the flora of Thailand.

93. **Poland** is implementing a programme for forest gene resources conservation and selective breeding of forest trees. As a result, Poland has established a considerable number of seed bases, seed extraction plants, regional seed stores, seed testing stations and see quality monitoring stations to meet the needs of both state forests and private owned forests. Poland has established forest gene banks for protection of Polish genetic resources of threatened species of trees, shrubs and forest floor plants. Poland has undertaken studies on ex situ conservation of forest genetic resources. In addition, Poland has established rules for trade in forest reproductive materials in accordance with the Act on Forest Reproductive Material and relevant EU directives. Poland has also employed ways for in situ conservation such as utilization of forest resources on the basis of sustainable forest management and renaturalizing ecosystems. **Switzerland** reported that it had developed genetic inventories for some species and work was under way to develop inventories for other species and a strategy for preserving genetic diversity of all tree species.

94. **The United Kingdom** has put in place guidelines, advice and incentive schemes that promote the use of natural regeneration or local origin/provenance planting stock for native woodlands. The Forestry Commission of the United Kingdom plans to initiate a United Kingdom policy development working group to develop *in situ* and *ex situ* policies for genetic conservation. Inventories of local origin populations of native tree species have been prepared for Scotland, England and Wales. More work is underway to stimulate collection of seed and growing stock of identified local origins. There have been some studies and subsequent conservation action based on genetic variation in threatened species. The statutory conservation agencies have undertaken an initial review of the implications of tree genetically modified organisms and a paper on the genetic modification of trees and its relevance to biodiversity is to be published later in 2003. A research programme aimed at better understanding genetic diversity in forest ecosystems is developing for United Kingdom forestry. The United Kingdom is also involved in the Millennium Seed Bank Project, an international collaborative plant conservation initiative, and the European Forest Genetic Resources Programme.

Promoting the fair and equitable sharing of benefits resulting from the utilization of forest genetic resources and associated traditional knowledge

95. A number of respondent countries have reported that no initiatives have been undertaken at the national level to address this objective to date (**Austria, Estonia, Sweden, Switzerland**), or they are in a very early stage of development. In **Demark** for instance, there are no policies or programmes dealing specifically with forest genetic resources. Only a provision in the Danish Penal Code is designed to address the issue of prior informed consent for the use of genetic material under mutually agreed terms. The Penal Code of **Finland** also lists those natural products which can be freely gathered under provisions on public right of access.

96. Also in **Poland** the issue of traditional knowledge associated with the utilization of forest genetic resources has not been tackled yet. Issues pertaining to the conservation of genetic resources are included in the general provisions of the National Policy on Forests, which promotes forest management methods

that respect ecological functions of forests and take into account their economic and ecological conditions. Similarly, in **Ireland**, given the limited utilization of genetic resources, the issue of forest traditional knowledge is addressed more generally by the section of the Strategic Plan for the Development of the Forestry Sector on Sustainable Forest Management, in which biodiversity is a key element.

97. While **China** did not report on the development of access and benefit-sharing arrangements, it stressed the relevance of the issue and the need for local communities to derive benefits from the use and conservation of biodiversity. Given the importance attributed to China's vast and rapidly expanding traditional medicine herb industry, forest gene banks classified by species and germplasm storage were built.

98. The Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their utilization are being considered by a number of Parties, including **Denmark, Germany** and **the United Kingdom**. In Germany, the Federal Office for Nature Conservation is supporting a project which will contribute to the follow-up process to the implementation of the Bonn Guidelines. The Federal Ministry of Education and Research is funding a joint interdisciplinary pilot project which is intended to elaborate a workable model for fair and equitable benefit-sharing in cooperation with the indigenous communities of an Ecuadorian rainforest area. In addition, the German Technical Cooperation Agency (GTZ) has supported several projects contributing to the implementation of access and benefit-sharing regulations in Bolivia, the Philippines and South Africa. In the **United Kingdom,** a review is underway of access to genetic resources and the equitable sharing of benefits arising from their use, which includes forest genetic resources. Relevant policies will be developed in light of this review and making use of the Bonn Guidelines. The Royal Botanic Gardens coordinated and DFID funded a pilot project for botanic gardens, which involved 28 botanical institutions from 21 countries sharing ideas on best practice and developed a set of voluntary principles on access to genetic resources and benefit-sharing.

99. Amongst respondent countries, **Sri Lanka** seems to be the only one where legislation addressing access to genetic resources and the equitable sharing of benefits is in an advanced stage of development, as a new biodiversity law addressing the issue has been drafted. In addition, a new legal instrument on medicinal plant traditional knowledge and the national policy on traditional knowledge are under development.

3.5.2 Programme element 2. Institutional and socio-economic enabling environment

Improving the understanding of various causes of forest biodiversity losses

100. **Austria** has undertaken a comprehensive study on the hemeroby of Austrian forest ecosystems, which focuses on the present conditions and explores specific causes of biodiversity losses. The Austrian Forest Inventory has adopted parameters which are appropriate to describe biodiversity aspects during its last two inventory periods. Appropriate technical analysis and interpretation of these biodiversity-related data might contribute to increasing the understanding of some causes of biodiversity losses to some extents. A Red List of threatened forest biotope types also provides some information on the causes of threats. A case-study on the implementation of the ecosystem approach in Austrian forests also investigates threats to forest biodiversity on the basis of a comprehensive review of relevant literature.

101. **China** reported that various educational and publicity programmes had been launched to increase the public understanding of biodiversity-related issues, including forest biodiversity. **Denmark** cited a few analyses undertaken to increase the understanding of various causes of forest biodiversity losses, including analysis of effects of change from broadleaves to conifers on vegetation and time needed for reestablishment; impacts of afforestation on vegetation and impacts of pesticides and soil treatment on

fauna diversity. **Estonia** has developed a number of ecosystem-level inventories which partly indicate the status of forest management sustainability, including an inventory of old-growth forest, an inventory of wooded meadows and an inventory of woodland key habitats. Estonia has also developed national criteria and indicators for sustainable forest management in accordance with the Pan-European Ministerial Forest Process. However, Estonia indicated a need for more focused and comprehensive analysis of various causes of forest biodiversity losses. **Finland** reported that the threats to Finnish animal and plant species had been thoroughly assessed in the process of compiling three comprehensive red data books. Nationwide analyses of the threats to different habitat types have been conducted as part of the habitat conservation programmes. The latest comprehensive analysis was undertaken in connection with the development of the National Forest Programme 2010. The working group to be entrusted with this analysis found that the most important causes of forest biodiversity losses included drastic decrease of forest fires, losses of diversity of forest structures, large-scale drainage of wetlands, decrease and fragmentation of natural forests, and drastic decrease of decayed wood in forests.

102. **Germany** indicated that there was a large body of literature on the impacts of external factors and management measures affecting the state of forest ecosystems and their biodiversity. Research on these subjects has been undertaken by various German institutions. One of the main areas of interest over the past decade has been on the so-called “new types of forest damage” and the impact of air-borne pollutants on forest ecosystems. However, Germany indicated that its understanding of the causes of forest biodiversity losses was far from complete. To improve the understanding in this regard, Germany has undertaken two projects, with one to investigate the key factors impacting forest biodiversity and the other on forest biodiversity in Germany. Germany has also developed a red list of endangered types of biotope which has identified, among others, potential threats to endangered forest biotope types, including afforestation with non-autochthonous species, management intensification, emission of air-borne nutrients and pollutants and drainage of moist sites.

103. **Ireland** said that deforestation before 1700 was the greatest cause of forest biodiversity loss. The current risks to the Irish forest biodiversity include (i) deer population increase without any natural predation; (ii) spreading of invasive alien weeds; (iii) grazing by farm animals; and (iv) neglect of woodland management.

104. **Poland** has identified three main factors which are responsible for the current condition of forests in Poland, namely air pollution, anomalous weather conditions and consequences of silvicultural procedures in the past. In general, main threats to forests are anthropogenic changes in the environment, including:

- Soil and water pollution,
- Decreasing of underground water level,
- Excessive fragmentation of forest areas,
- Land use changes related to mining,
- Intensified penetration of forests by people,
- Schematic forest management oriented towards obtaining raw materials,
- Forest fires.

105. **Sri Lanka** reported that deforestation, encroachment of and overexploitation, illegal mining could be major causes of forest biodiversity losses. In addition, introduction of invasive alien species is becoming a threat to forest biodiversity. Environmental pollution can also impact on the populations of

some sensitive species such as lichens. **Sweden** indicated that it had begun to implement the strategies developed on the basis of modern conservation biology and landscape ecology, which focuses future conservation on those areas with many valuable habitats and important features for biodiversity, and large nature reserves.

106. **The United Kingdom** indicated that there had been considerable analysis of threats to forest biodiversity through the United Kingdom biodiversity action plan process. Various additional studies have looked at particular threats within Great Britain. The monitoring of protected sites undertaken by the conservation agencies through Condition Assessment process has identified some main negative impacts, including unsustainable deer populations, development pressures, agricultural impacts and pollution. The Land Use Policy Group has looked at the impacts of the Common Agricultural Policy (CAP) on forestry and woodlands and will make recommendations for the mid-term review of CAP.

Integration of biodiversity conservation and sustainable use into forest and other sector policies and programmes

107. The **Austrian** National Forest Programme, which is being developed, aims at furthering sectoral integration. The Austrian Strategy for Sustainable Development also requires sectoral integration. However, practical implementation of cross-sectoral integration is not keeping pace with the progress made at the conceptual, legislative and strategy levels. **China** has integrated biodiversity conservation and sustainable use into forest and other sectoral policies and programmes. Indicative of this is the inclusion of nature reserve establishment into the 10th National Five-year Plan for Economic and Social Development and the integration of forest biodiversity conservation and sustainable use as an important of part of the National Programme for Ecology Conservation.

108. **Denmark** developed a national forest programme in 2002 which aimed at a cross-sectoral approach. Some laws highly relevant to forest policy such as those on agriculture, spatial planning, and nature protection are being drafted simultaneously with the new Forest Act. These processes are well coordinated and forest issues are duly taken into consideration. Forestry is also integrated into national strategies, policies and plans for spatial development, sustainable development and biodiversity.

109. **Estonia** has integrated biodiversity conservation and sustainable use into forest and other sectoral policies and programmes mostly through national biodiversity strategy and action plan. Forest biodiversity is also addressed in the Estonian Forest Policy and the Estonian Forestry Development Plan. **Finland** indicates that its Constitution attaches importance to the maintenance of biodiversity. Furthermore, forest biodiversity is one of priority areas for the Finnish Programme for Sustainable Development, the National Biodiversity Action Plan and the National Forest Programme. The implementation reports of the National Biodiversity Action Plan stressed the importance of integrating biodiversity into all sectors. The ongoing legislative processes also take into consideration the biodiversity conservation and sustainable use, such as the revision of the Water Act and the Penal Code.

110. **Germany** has integrated biodiversity conservation and sustainable use into programmes and policies within the forest sector, e.g. through the forest sector strategy or the national forest programme. However, Germany indicated the integration into other sectors still needed to be improved. The main instruments for ensuring the consideration of biodiversity aspects in the activities of other sectors include the Federal Act on Environmental Impact Assessment, the so-called intervention provision of the Federal Nature Conservation Act and the conservation requirements in landscape planning. The forthcoming introduction of strategic environmental assessments (SEA) for relevant spatial plans and programmes may help to promote the consideration of consequences for biodiversity at an earlier stage of planning.

111. **Ireland** indicated that biodiversity conservation and sustainable use was integrated into forest sector through an ecosystem approach to forest planning and management and integration of forestry with agricultural, sustainable and rural development. The Irish National Forest Standard has defined criteria

and indicators for sustainable forest management. And the Irish national biodiversity strategy and action plan pays special attention to the need for integrating biodiversity conservation and sustainable use into all relevant sectors.

112. **Poland** pointed out that its current structure of forest management promotes a bottom-up approach, which aims at cross-sectoral harmonization of forest with relevant sectors, such as agriculture, environment, energy, transport, spatial planning. The national forest programme that Poland has just launched establishes links to relevant programmes and strategies. **Sri Lanka** reported that its wildlife and forest sectors directly addressed biodiversity and sustainable use in their relevant policies and there was a growing tendency of recognizing this in other sectoral policies as well. Switzerland indicated that its national forest programme which is to be finalized by the end of 2003 contained a number of objectives and activities related to biodiversity conservation and sustainable use.

113. **The United Kingdom** indicated that the United Kingdom Biodiversity Action Plan process had set targets for priority species and habitats and there was ongoing work to integrate these into forest strategies. The Land Use Policy Group has done some work on the impact of agricultural sector policies on biodiversity, including the indirect impacts of forestry. However, more work is required to integrate biodiversity targets into other sectors. The ongoing review of planning guidance for land use will provide opportunities to ensure that local development policies and consideration of development proposals take into account both national and local priorities for biodiversity.

Development of good governance practices, review and revision of and implementation of forest and forest-related laws, tenure and planning systems, to provide a sound basis for conservation and sustainable use of forest biodiversity

114. **Austria**, **China**, **Denmark, Estonia, Germany, Ireland, Poland, Sweden** and **Switzerland** developed good governance practices, reviewed and revised and implemented forest and forest-related laws, tenure and planning systems, to provide a sound basis for conservation and sustainable use of forest biodiversity. **Finland** indicated that its revised Nature Conservation Act provided the most important legislative framework for the conservation of biodiversity. In addition, a number of other legislations were revised in the 1990's to address forestry-related issues. Both Finland and the **United Kingdom** indicated that their relevant laws or practices required environmental impact assessment for all projects, plans or operations that may have impacts on forests or forest biodiversity. In **Sri Lanka** there has been a considerable re-orientation in policy adopted by the Forest Department over the years.

Promoting forest law enforcement and addressing related trade

115. **Finland, Ireland** and **Switzerland** have comprehensive measures in place to strengthen forest law enforcement and address related trade, **Austria**, **China**, **Poland**, **Sri Lanka** and **the United Kingdom** have some measures in place. And **Estonia** and **Sweden** have identified potential measures.

116. In **Denmark** and **Germany**, at national level, forest law enforcement is not considered as a serious problem. Concerning international trade, they are working to ensure the provenance of imported wood from legal sources within the scope of CITES regulations and by supporting voluntary independent forest certification.

Mitigating the economic failures and distortions that lead to decisions that result in loss of forest biodiversity

117. **Austria** and **Sri Lanka** indicated that reviews are under way. **Estonia** and **Sweden** indicated that some measures have been identified. **Denmark** indicated that perverse incentives such as drainage subsidies had been abandoned. The **United Kingdom** indicated that there were some recognized perverse incentives caused, for example, by the development value of land and the Common Agricultural Policy.

118. **Austria**, **China**, **Finland**, **Germany**, **Ireland, Poland** and **the United Kingdom** have programmes in place to promote forest conservation, to compensate forest owners for the external benefits generated by forests and to counteract the cost-revenue squeeze observable for many forests. Incentives are provided by direct payments, tax rebates and grant aid schemes.

119. **Estonia** has schemes in place to provide market incentive for the use of sustainable practices and to develop alternative income generation programmes for local communities. **Germany** encourages voluntary independent forest certification. The United Kingdom woodland assurance standard certification process aims to provide market incentives for sustainable management.

120. **Austria** and **Germany** noted the role of non-monetary forest benefits and values. **Austria** noted that such values have not been integrated in national accounting systems yet. **Germany** pointed to recent investigations carried out on the public values of ecological forests and the valuation of several non-market goods and services, as a basis for further deliberations on how to reduce economic failures and distortions.

Increasing public support and understanding of the value of forest biodiversity and its goods and services at all levels

121. **Austria**, **China**, **Estonia**, **Ireland**, **Sweden** and **Switzerland** are increasing public support and understanding of the value of forest biodiversity. **Denmark** established and/or is developing several networks for this purpose through more than 260 nature guides, forest education in schools, activities organized to observe the Forest Day and outdoor facilities established in state forest land and in many private forest land.

122. In **Germany** the value of forest biodiversity is addressed in the public awareness programmes of, *inter alia*, the *Länder* Forest Administrations, large-scale protected areas such as biosphere reserves and national parks, and the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, as well as the Federal Ministry of Consumer Protection, Food and Agriculture. The extension services offered to private forest owners by local forest authorities also represent an important tool in promoting the understanding of and support for concerns regarding the conservation and sustainable use of biodiversity.

123. In **Poland** there are some "promotional forests complexes" as places for implementing protection on a deep scale and, in accordance with the Convention on Biological Diversity for reconciling economic and conservationist goals – preserving all the organisms occurring in the forests and especially supporting those that, for different reasons, have the greatest value. These include species and biocenoses along with their habitats that are protected by law or deserve legal protection. Simultaneously, PFC plays an important role in the process of shaping awareness on the aims of sustainable forest management.

124. In **Sri Lanka,** the *Biodiversity Conservation Action Plan (BCAP)—Framework for action and the Strategy for Biodiversity Conservation* identifies different sectors of biodiversity as separate chapters. Issues of these sectors have been identified and relevant recommendations have been given. Revision of the BCAP will address the activities and institutions recommended. It is anticipated to incorporate these policies into sectoral policies of each institution identified.

125. In the **United Kingdom**, the Natural History Museum is collaborating with the Ramblers Association to get the public involved in monitoring the distribution of elm trees in the United Kingdom. The Royal Botanic Gardens Kew's school programme addresses forest biodiversity issues and designs training materials for the National Curriculum at primary and secondary school levels. Informally, Kew helps to raise awareness through interpretation materials, visitor tours, festivals and the website.

3.5.3 Programme element 3. Knowledge, assessment and monitoring

Review and adoption of a minimum forest classification system, based on harmonized and accepted forest definitions and addressing key forest biodiversity elements

126. The responses of several Parties are ambiguous, in that forest definitions and forest biodiversity elements do not explicitly figure when mention is made of adopted forest classification systems (e.g. **Austria, Estonia, Ireland, Sweden** and **Switzerland**). Three Parties are still reviewing their forest classification systems (**Denmark, Poland, Sri Lanka**) or results are not yet available (**China**). **Germany** requests clarification of the term "minimum classification system". The **United Kingdom** indicated that a forest classification system had been adopted.

Development of national forest ecosystem classification systems and maps that use agreed international standards and protocols

127. The majority of Parties have classification systems in place (**Austria, China, Estonia, Finland, Sweden** and **Switzerland**), while the remaining countries are in the early (**Denmark, Poland, Sri Lanka**) or advanced (**Ireland, the United Kingdom**) stages of development. No internationally agreed national forest ecosystem classification systems are put in place yet in **Germany**.

Development of specific forest ecosystems surveys in priority areas for conservation and sustainable use of forest biodiversity

128. A number of reporting countries indicated that forest ecosystem surveys had been undertaken (**China, Estonia, Finland, Poland, Sri Lanka, Sweden, Switzerland** and **the United Kingdom**). However, a few other countries did not indicate clearly whether they had undertaken such surveys. **Germany** requests clarification of the expression "specific forest ecosystem surveys". Several Parties indicated that they had participated since 1988 in the European Network of Permanent Sample Plots for Monitoring of Forest Ecosystems

129. **The United Kingdom** indicated that management plans had been prepared on the basis of surveys for Special Areas of Conservation and Sites of Special Scientific Interest, many ancient semi-natural woods and for publicly owned land. Forest Enterprise has surveyed the main biodiversity priority sites on Forestry Commission land. A range of both statutory and non-statutory bodies employ specialists to carry out biological surveys and advise on appropriate management on their lands. In addition, grants have been introduced for survey of privately owned woodland.

Advancing the development and implementation of international, regional and national criteria and indicators based on key regional, subregional and national measures within the framework of sustainable forest management

130. Pan-European guidelines for sustainable forest management and monitoring programmes of the Ministerial Conferences on the Protection of Forests in Europe (MCPFE) are mentioned by several Parties (**Austria, Denmark, Estonia, Finland, Germany, Ireland, Poland, and Switzerland**) as guiding the development of national indicators. The aforementioned Parties contribute to their development at Pan-European level as well as improving and adapting them to nationally relevant guidelines.

131. **China** mentions a national goal of increasing the extent of protected forest area. Relevant programmes are being developed by **Sri Lanka**. The **UK** has finalized a set of indicators for sustainable forestry, including populations of woodland birds, progress towards habitat and species action plan targets, condition of woodland sites of special scientific interest, trends in plant biodiversity and areas of ancient woodland under approved management schemes and open for public access. The UK also has "headline indicators" for sustainable development that relate to forest biodiversity.

Key research programmes on the role of forest biodiversity and ecosystem functioning

132. **China, Finland** and **Sweden** have conducted comprehensive research programmes on the role of forest biodiversity and ecosystem functioning. **Austria, Germany, Ireland, Sri Lanka**, **Switzerland** and **the United Kingdom** have only conducted some research. **Germany** cited the example of two modular projects: "On forest biological diversity in Germany" funded by the Federal Ministry of Consumer Protection, Food and Agriculture (cf. question 20), as well as in the research programme "Forest management of the future" funded by the Federal Ministry of Education and Research (1998-2003), which aim to investigate the consequences of the transformation of managed forests according to ecological criteria. **Denmark, Estonia** and **Poland** have research programmes under development.

Enhancing and improving the technical capacity at the national level to monitor forest biodiversity, benefiting from the opportunities offered through the Clearing House Mechanism of Convention on Biological Diversity

133. **China** has a national clearing-house for biodiversity information and has developed databases and information networks of biodiversity. The Chinese Academy of Science and its institutions have developed over 50 databases of biodiversity mainly including databases of: species inventory, rare endangered species, specimens, ecosystems, taxonomical code, crop germplasm resources and an external information exchange network of germplasm. Departments of environmental protection, forestry, and oceanography have developed environment database systems, such as forestry and oceanography database systems. The development and use of these databases promotes the cooperation in science and technology between China and other countries and furthers technology communication and transfer. There is a concern that Chinese database and database systems are currently separated by department and there is a need for conformity and standardization in order to exercise adequately the function of the database systems.

134. **Estonia** has improved the technical capacity at national level to monitor forest biodiversity, benefiting from a project funded by GEF. **Finland** indicated that a number of relevant activities had been included in its development cooperation programmes and projects, including creation of a biodiversity strategy and database for the Amazon region.

135. In **Germany**, capacity for the monitoring of forest biological diversity is considered adequate in terms of both access to technical equipment and availability of trained specialists. Limiting factors are seen with respect to financial resources and as a result of the need to coordinate existing monitoring activities carried out by different players at varying geographical scales.

136. In **Ireland**, an audit of the Irish National Forest Standard is being developed, which will include the biodiversity criterion. Research programmes are also in place. In **Poland**, numerous groups of scientific experts, representing not only the forest sector but also other sectors, have been taking part in the process of improving the monitoring of forest biodiversity. The work will result in the elaboration of the Forest Code, which will include general principles and directions of forest development and conditions of sustainable forest management and its monitoring.

137. **Sweden** has some programmes in place, such as the Swedish National Forest Inventory, which describes the state of and changes in forest resources in Sweden (growth and cuttings for instance). The inventory includes 13,500 sample plots and 10,400 of these plots are inventoried in the field during the period of the year when the ground is bare. All types of land are included in the survey but the most detailed information concerns forestland. Around 25 % of the key habitats are known in Sweden. The Woodland key habitat (WKH) survey is a concept that is widely recognized as a practical instrument for conservation within the Swedish forest sector. These are areas where red-listed animals and plants exist, or could be expected to exist. The term serves as a stamp of quality for various valuable forest types, e.g. old fire-influenced pine wood, hillsides, swamps with spruce and black alder, old and mature broadleaf trees and wooded pastures. The concept has also been included in different forest certification standards.

138. In **Switzerland**, the Swiss Agency for the Environment, Forests and Landscape (SAEFL) has launched a programme for this purpose called "Biodiversity Monitoring in Switzerland (BDM)". In conjunction with the BDM programme, experts contracted by the Federal Government will regularly count animals and plants in numerous predetermined areas in the field. The **United Kingdom** indicated that its monitoring systems included basic condition assessment of protected sites. The DFID has examined the role of forest biodiversity in livelihoods and how to link policy and practice. The Natural History Museum has helped produce biodiversity inventories for the Mbaracayu Forest Reserve in Paraguay.

Annex

QUESTIONNAIRE FOR A VOLUNTARY REPORT ON IMPLEMENTATION OF THE EXPANDED PROGRAMME OF WORK ON FOREST BIODIVERSITY

1. Has your country identified priority goals, objectives and activities included in the expanded programme of work for implementation at the national level?	
a) no (please specify the reasons)	
b) yes (please provide a list of priorities identified)	
Further comments on identification of priority goals, objectives and activities	
2. From the list of priorities, did some or all of them produce the expected impacts after their implementation (i.e. a success)?	
a) no (please specify the reasons)	
b) yes (please specify success stories)	
Further comments on impacts of implementation of priority activities	
3. Were there any challenges/impediments to the implementation of priority activities that could have negatively affected their chance of success?	
a) yes (please specify the activities and the main challenges/impediments)	
b) no	
Further comments on challenges/impediments to implementation of priority activities	
4. Is your country collaborating with other Governments and regional and international organizations and processes to implement regional or international activities in the expanded programme of work?	
a) no	
b) yes, limited collaboration (please provide details)	
c) yes, significant collaboration (please provide details)	
Further comments on collaboration with other Governments and regional and international organizations and processes to implement regional or international activities in the expanded programme of work	

Programme Element 1: Conservation, Sustainable Use and Benefit-sharing

5. Has your country developed practical methods, guidelines and/or indicators to apply the ecosystem approach in relation to sustainable forest management?	
a) no (please specify the reasons)	
b) relevant methods, guidelines and indicators under development	
c) some methods, guidelines and indicators developed (please provide details)	

d) a comprehensive set of methods, guidelines and indicators developed (please provide details)	
Further comments on the practical methods, guidelines and indicators to apply the ecosystem approach in relation to sustainable forest management	
6. Has your country taken any measures to prevent the introduction of invasive alien species that threaten ecosystems, and mitigate their negative impacts on forest biodiversity in accordance with international law?	
a) no	
b) relevant measures under development	
c) yes, some measures taken (please outline the measures)	
d) yes, comprehensive measures taken (please outline the measures)	
Further comments on the measures taken	
7. Has your country taken any measures to mitigate the impact of pollution on forest biodiversity?	
a) no	
b) under consideration	
c) relevant measures under development	
d) yes, some measures taken (please provide details)	
e) yes, comprehensive measures taken (please provide details)	
Further comments on the measures taken to mitigate the impact of pollution on forest biodiversity	
8. Has your country taken any measures to mitigate the negative impacts of climate change on forest biodiversity?	
a) no	
b) relevant research and monitoring programmes under development	
c) some research and monitoring activities being undertaken but no measures taken	
d) yes, some measures taken (please outline the measures)	
e) yes, comprehensive measures taken (please outline the measures)	
Further comments on the measures taken to mitigate the negative impacts of climate change on forest biodiversity	
9. Has your country taken any measures to prevent and mitigate the adverse effects of forest fires and fire suppression (where fire is a natural disturbance agent)?	
a) no	

b) relevant measures being considered	
c) relevant measures under development	
d) yes, some measures undertaken (please specify)	
e) yes, many measures being undertaken (please specify)	
Further comments on the measures to prevent and mitigate the adverse effects of forest fires and fire suppression	
10. Is your country mitigating effects of the loss of natural disturbances necessary to maintain biodiversity in regions where these no longer occur?	
a) no	
b) monitoring and assessment of effects ongoing	
c) potential measures identified	
d) yes, some adopted and being implemented (please provide details)	
e) yes, comprehensive measures adopted and being implemented (please provide further details)	
Further comments on measures adopted to mitigate effects of the loss of natural disturbances necessary to maintain biodiversity in regions where these no longer occur	
11. Is your country preventing and mitigating losses of forest biodiversity due to fragmentation and conversion to other land uses?	
a) no	
b) potential measures identified	
c) yes, some measures undertaken	
b) yes, comprehensive measures undertaken	
12. Is your country restoring forest biological diversity in degraded secondary forests and in forests established on former forestlands and other landscapes?	
a) no	
b) potential measures identified	
c) yes, some measures implemented in some areas (please provide details)	
d) yes, comprehensive measures implemented in major areas (please provide details)	
Further comments on the measures to restore forest biological diversity in degraded secondary forests and in forests established on former forestlands and other landscapes	
13. Is your country promoting forest management practices that further the conservation of endemic and threatened species?	

a) no	
b) relevant forest management practices under development	
c) yes, some practices adopted and promoted (please provide details)	
d) yes, some practices being implemented (please provide details)	
Further comments on the forest management practices that further the conservation of endemic and threatened species	
14. Is your country ensuring adequate and effective protected forest area networks?	
a) no	
b) networks of protected areas being planned	
c) some protected areas established but networks not in place	
d) networks of protected areas taking shape	
e) major networks of protected areas established	
15. Is your country promoting sustainable use of forest resources to enhance the conservation of forest biological diversity?	
a) no	
b) relevant policy and programme under development	
c) yes, some policies and programmes in place (please provide details)	
d) yes, comprehensive policies and programmes in place (please provide details)	
Further comments on the policies and programmes for promoting sustainable use of forest resources to enhance the conservation of forest biodiversity	
16. Is your country preventing losses caused by unsustainable harvesting of timber and non-timber forest resources?	
a) no	
b) potential measures identified	
c) some measures undertaken (please provide details)	
d) comprehensive measures undertaken (please provide details)	
Further comments on the measures to prevent losses caused by unsustainable harvesting of timber and non-timbering forest resources	

17. Is your country taking any measure to enable indigenous and local communities to develop and implement adaptive community-management systems to conserve and sustainably use forest biological diversity?	
a) no	
b) not applicable	
c) relevant policy and programme under development	
d) yes, some policies and programmes in place (please specify)	
Further comments on the policies and programmes to enable indigenous and local communities to develop and implement adaptive community-management systems to conserve and sustainably use forest biological diversity	
18. Has your country developed effective and equitable information systems and strategies and promoted implementation of those strategies for *in situ* and *ex situ* conservation and sustainable use of forest genetic diversity?	
a) no	
b) relevant information system and strategy under development	
c) relevant information system in place	
d) relevant strategies in place (please provide details)	
e) relevant information system and strategies in place (please provide details)	
Further comments on the strategies for *in situ* and *ex situ* conservation and sustainable use of forest genetic diversity	
19. Is your country promoting the fair and equitable sharing of benefits resulting from the utilization of forest genetic resources and associated traditional knowledge?	
a) no	
b) relevant policies and programmes under development	
c) some policies and programmes in place (please specify)	
d) comprehensive policies and programmes in place (please specify)	
Further comments on the policies and programmes for promoting the fair and equitable sharing of benefits resulting from the utilization of forest genetic resources and associated traditional knowledge	

Programme Element 2: Institutional and Socio-economic Enabling Environment

20. Is your country improving the understanding of the various causes of forest biodiversity losses?

a) no	
b) a limited analysis being undertaken	
c) a thorough analysis being undertaken	
d) yes, some analyses completed and results available (please outline some findings from these analyses)	
e) yes, comprehensive analysis completed and results available (please provide some findings from these analyses)	
Further comments on the analysis of the various causes of forest biodiversity losses	
21. Has your country integrated biodiversity conservation and sustainable use into forest and other sector policies and programmes?	
a) no	
b) under consideration	
c) yes, integrated into policies and programmes in some sectors (please provide details)	
d) yes, integrated into policies and programmes in major sectors (please provide details)	
Further comments on the integration of biodiversity conservation and sustainable use into forest and other sector policies and programmes	
22. Has your country developed good governance practices, reviewed and revised and implemented forest and forest-related laws, tenure and planning systems, to provide a sound basis for conservation and sustainable use of forest biodiversity?	
a) no	
b) review under way	
c) review and revision completed	
d) some good governance practices and related laws developed and implemented (please provide details)	
e) a comprehensive set of practices and laws developed and implemented (please provide details)	
Further comments on the practices and laws developed and implemented to provide a sound basis for conservation and sustainable use of forest biodiversity	
23. Is your country promoting forest law enforcement and addressing related trade?	
a) no	
b) review under way	
c) potential measures identified	

d) yes, some measures in place to strengthen law enforcement and address related trade	
e) yes, comprehensive measures in place to strengthen law enforcement and address related trade	
24. Is your country mitigating the economic failures and distortions that lead to decisions that result in loss of forest biodiversity?	
a) no	
b) review under way	
c) potential measures identified	
d) yes, some measures taken (please provide details)	
e) yes, comprehensive measures taken (please provide details)	
Further comments on the measures taken to mitigate economic failures and distortions that lead to decisions that result in loss of forest biodiversity	
25. Is your country increasing public support and understanding of the value of forest biodiversity and its goods and services at all levels?	
a) no	
b) relevant programme under development	
c) yes, some programmes in place	
d) yes, comprehensive programmes in place	

Programme Element 3: Knowledge, Assessment and Monitoring

26. Has your country reviewed and adopted a minimum forest classification system, based on harmonized and accepted forest definitions and addressing key forest biodiversity elements?	
a)no	
b) review under way	
c) review completed	
d) a forest classification system adopted	
27. Has your country developed national forest ecosystem classification systems and maps that use agreed international standards and protocols?	
a) no	
b) early stages of development	
c) advanced stages of development	
d) yes, classification systems in place	
28. Has your country developed specific forest ecosystems surveys in priority areas for conservation and sustainable use of forest biodiversity?	

a) no	
b) under consideration	
c) relevant surveys being planned	
d) relevant surveys completed (please provide details)	
e) results of relevant surveys available (please provide details)	
Further comments on the surveys of specific forest ecosystems in priority areas for conservation and sustainable use of forest biodiversity	
29. Is your country advancing the development and implementation of international, regional and national criteria and indicators based on key regional, subregional and national measures within the framework of sustainable forest management?	
a) no	
b) relevant programme under development	
c) some criteria and indicators developed (please provide details)	
d) comprehensive indicators developed (please provide details)	
Further comments on the development and implementation of criteria and indicators	
30. Has your country conducted key research programmes on the role of forest biodiversity and ecosystem functioning?	
a) no	
b) research programs under development	
c) yes, some research programs conducted	
d) yes, comprehensive research programs conducted	
31. Is your country enhancing and improving the technical capacity at the national level to monitor forest biodiversity, benefiting from the opportunities offered through the Clearing House Mechanism of CBD?	
a) no	
b) capacity building programme under development	
c) yes, some programmes in place (please provide details)	
d) yes, comprehensive programmes in place (please provide details)	
Further comments on the programmes to enhance and improve the technical capacity at the national level to monitor forest biodiversity	
