UNEP

CBD

CONVENTION ON BIOLOGICAL DIVERSITY

Distr.
GENERAL

UNEP/CBD/AHTEG-FBD.REV /1/INF/2
3 November 2003

ORIGINAL: ENGLISH

AD HOC TECHNICAL EXPERT GROUP ON REVIEW OF THE IMPLEMENTATION OF THE PROGRAMME OF WORK ON FOREST BIOLOGICAL DIVERSITY
Montpellier, France, 24-27 November 2003
Item 3.3 of the provisional agenda*

FOREST BIOLOGICAL DIVERSITY: COMPILATION OF THEMATIC NATIONAL REPORTS ON SUCCESSES, CHALLENGES AND OBSTACLES TO THE IMPLEMENTATION OF THE PROGRAMME OF WORK

Note by the Executive Secretary

I. INTRODUCTION

1. In paragraph 27 of decision VI/22, the Conference of the Parties agreed to call a voluntary thematic report in relation to implementation of the programme of work on forest biological diversity, to elicit information on:

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

(b) Successes in implementing the programme of work; and

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

2. In order to provide input to the ad hoc technical expert group on the review of implementation of the programme of work, pursuant to paragraph 26 of decision VI/22, the present note compiles the views of the Parties who submitted their voluntary reports to the Secretariat, based on notification 2003-057 in June 2003 and SCBD/I&O/BK/39078 in September 2003 to extend the deadline for the submission of the questionnaires to October 15. By October 31, ten Parties had submitted the questionnaire. The questionnaire contains a total 31 questions. In the first three questions, Parties were requested to identify priority actions, and within these, to report on successes as well as on challenges/impediments during their implementation. The fourth question relates to regional and international cooperation. The remaining 27 questions relate directly to the objectives in the expanded programme of work on forest biological diversity. The answer to all questions are compiled in the present note.

* UNEP/CBD/AHTEG/REVFBD/1/1

1. Has your country identified priority goals, objectives and activities included in the expanded programme of work for implementation at the national level?

AUSTRIA

3. The above mentioned study on the implementation of the FBD Work Programme in Austria identifies several areas (goals, objectives, activities), which should be addressed in the further implementation of the Work Programme. However, the process of setting up priority goals, objectives and activities has not been finalized yet and is being carried out within the National Commission on Biodiversity in order to include them in the National Strategy on Biodiversity and the Austrian Forest Dialogue, aiming at elaborating a National Forest Programme.

CHINA

4. In accordance with the development plans for wild fauna and flora and their habitats, a series of key wild fauna and flora have been rescued, many first-class state nature reserves, prohibited hunting areas and species bases and breeding bases of rare plants have been established, improved and expanded, rare species resources have been restored and expanded. Until 2050, nature reserves of forest type in China will reach to 2000; the total area accounts for 16 percent of China's area, 85 percent of key national protected wild fauna and flora will be conserved. These activities are followings:

(i) The development of nature reserves has been achieved. From 1991 to the end of 2002, nature reserves have increased from 708 to 1757 and the areas also increased from 56.06 million hectares to 132.90 million hectares; 21 nature reserves have been included the Man and Biosphere Protection Network, and 21 nature reserves have been included in the List of International Important Wetlands.

(ii) The rescuing programs of endangered species have been implemented. The Government of China has implemented a series of rescuing programs for endangered species, which has gained outstanding effects. Many endangered species have been or being resumed. For example, the protection programs of Giant Pandas and their habitats have been comprehensively implemented. There are 28 Giant Panda conservation areas established or under construction, there are 1000 Giant Pandas in China, and the population becomes gradually stable.

(iii) The Biodiversity Conservation Action Plan and state research report have been developed. In order to implement the United Nations Convention on Biological Diversity, the Government of China has stipulated China Biodiversity Conservation Action Plan and China's National Report on Implementation of the Convention on Biological Diversity. The Report has comprehensively assessed Chinese biodiversity resources and their values, listed the names of national endangered angiosperms and vertebrates, and put forward the policy recommendations for national capacity building of biodiversity conservations and sustainable uses of bio-resources.

DENMARK[1]

5. The Danish priorities has been laid down mainly in the National Forest Programme, a process that was initiated before the decision VI/22 of April 2002 and finalised shortly after, in June 2002. Further

[1] Denmark has an annex to question 1. List of priority goals, objectives and activities (table at the end of this document)

basis for the priorities arises from The National Biodiversity Strategy, and the National Biodiversity Action Plan, which recently has been revised and fully co-ordinated with the NFP.

ESTONIA

6. Estonia has identified priority goals, objectives and activities included in the expanded programme of work for implementation at the national level in a number of environmental policy documents. The objectives of principal document of national environmental policies, the *National Environmental Strategy* (1997), was to bring to the public's attention the environmental problems, priority goals and tasks in promoting sustainable development; and includes among first priorities the task to promote sustainable use of the natural resources incl. forest resources, historically traditional for Estonia.

7. The *Estonian Forest Policy* (1997) is a strategic planning document for the most important biological resource in the country, and includes also a number of goals, objectives and activities included in the expanded programme of work. *The National Biodiversity Strategy and Action Plan* (1999) has set several tasks for the forestry sector in line of biodiversity process terms. Finally, the *Estonian Forestry Development Plan* (2003) has detailed a set of activities to in the area of forest biodiversity protection and sustainable use. However, not always the priority goals, objectives and activities in the mentioned documentation have clear reference to the CBD expanded programme of work on Forest Biological Diversity.

GERMANY

8. The Federal Ministry of Consumer Protection, Food and Agriculture (BMVEL) and the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) have each undertaken an analysis of the relevance of the proposed activities under the specific national conditions and of the degree to which relevant activities are already covered by existing programmes and initiatives.

9. In the sector strategy for the conservation and sustainable use of biological diversity in German forests (BMVEL), which became operational for the Federal and Länder forest authorities in 2000[2], 11 priorities were identified for the implementation of the CBD in German forests. These are:

(d) Monitoring the state of forest biological diversity
(e) Reducing external threats to forest biological diversity
(f) Implementing the concepts of ecological silviculture
(g) Improving framework conditions of timber utilization
(h) Regulating game populations
(i) Carrying out conservation measures
(j) Carrying out forestry measures in a way compatible with the ecosystem
(k) Continuing and developing measures for the conservation, promotion and sustainable use of the genetic diversity of forest trees and shrubs
(l) Developing economic incentives for the conservation and development of biodiversity in private and local forests
(m) Continuing and developing public relations work and environmental education
(n) Carrying out research projects on forest biological diversity.[3]

[2] About 34 % of German forests are state-owned (31 % by the *Länder* and 3 % by the Federal government). The larger share of German forests is owned and managed by private parties and municipalities.

[3] for the full text of the strategy, see http://www.verbraucherministerium.de

10. Measures have already been introduced on each of these priorities.Above and beyond this, the Federal and Länder Forest Acts have laid down the basic functions of forests, such as recreation, nature conservation and the sustainable use of wood. In addition to these ongoing activities, and as a direct response to the Expanded Programme of Work, the Federal Office for Nature Conservation on behalf of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety is preparing to support research and development projects on:

(o) the further development and implementation of the Ecosystem Approach in selected forest biosphere reserves (see also answer to question 5)

(p) the effects of fragmentation of forest areas on the dispersal of wild plant and animal species and their genetic diversity (see also answer to question 11).

(q) the analysis and development of standards for evaluation of protected forest areas (this project aims to develop recommendations on methods to evaluate the effectiveness of protected forest areas as well as on the implementation of protected forest area networks and the selection of areas)

IRELAND

11. 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 produced 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, inter alia, provide for the conservation and sustainable use of biological diversity. Expand research to obtain information on the biodiversity of plantation forests and semi-natural woodlands.

POLAND

12. The Polish priorities are included within the framework of the PROGRAMME ELEMENT 1. CONSERVATION, SUSTAINABLE USE AND BENEFIT-SHARING. Poland is especially interested in the fulfilment of provisions set by the GOAL 1 that is relating to the development of the ecosystem approach to the management of all types of forests. The Objective 1 (Development of practical methods, guidelines, indicators and strategies to apply the ecosystem approach adapted to regional differences to forests both inside and outside protected forest areas as well as both in managed and unmanaged forests)of the above mentioned Element 1 is very high on Polish priority list. However, the other priority goals and objectives are also the very important issues for the Polish forestry.

SRI LANKA

13. Priority activities:

(r) Habitat mapping, Biodiversity survey, endemic species conservation action plan. Ecosystem Approach has been included into the TOR of the ongoing revision process of Biodiversity Conservation Action Plan (BCAP).

(s) Promote activities that minimize the negative impacts of forest fragmentation including aforestation, forest restoration, watershed management etc.

(t) Develop and implement strategies at regional and national level to mitigate the impacts of invasive alien species, strengthening quarantine regulation.

(u) Improve the knowledge of IAS, public education and awareness.

(v) Promote practice of fire prevention and control

(w) Determine the conservation needs of threatened and endemic species.

(x) Protected Area Management and Wildlife Conservation Project ensures adequate and effective protected area network.

(y) Survey and demarcation of all natural forest areas under Forestry Resources Management Project (FRMP- ADB project).

SWEDEN

14. During the last years Sweden has focused on the work with, and implementation of Environmental Quality Objectives and therefore we have not chosen any specific priority goals, objectives and activities in the expanded programme of work. But many of our efforts, to some extent, overlap with the programme of work.

15. In April 1999 the Swedish Parliament adopted fifteen environmental quality objectives, describing what quality and state of the environment and the natural and cultural resources of Sweden are ecologically sustainable in the long term. To guide efforts to achieve these objectives, in spring 2001 the Government proposed interim targets for each quality objective. In a series of decisions in the course of 2001 and 2002, Parliament adopted a total of sixty-nine such targets, indicating the direction and timescale of the action to be taken.

16. The environmental quality objective for the forest is called Sustainable Forests and it is written as follows:

> "The value of forests and forest land for biological production must be protected, at the same time as biological diversity and cultural heritage and recreational assets are safeguarded." (The objective is intended to be achieved within one generation, by 2020.)

17. The interim targets in forest are:

(z) A further 900 000 hectares of forest land of high conservation value will be excluded from forest production by the year 2010

(aa) 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:

(bb) increasing the quantity of hard dead wood by at least 40 % throughout the country and considerably more in areas where biological diversity is particularly at risk;

(cc) increasing the area of mature forest with a large deciduous element by at least 10 %;

(dd) increasing the area of old forest by at least 5 %;

(ee) increasing the area regenerated with deciduous forest

18. By 2010 forest land will be managed in such a way as to avoid damage to ancient monuments and to ensure that damage to other known valuable cultural remains is negligible. By 2004 action programmes will have been prepared and introduced and introduced for threatened species that are in need of targeted measures.

SWITZERLAND

19. Switzerland has a long tradition of managing and preserving forest biological diversity. For example, close-to-nature forest management is required by law.

20. With respect to the identification of priority goals, objectives and activities included in the expanded programme of work for implementation at the national level, please note that an assessment process is currently under way. Since the identification of priorities is worked out concurrently and in combination with the assessment of the IPF/IFF Proposals for Action results are to be expected not earlier than mid 2004.

2. From the list of priorities, did some or all of them produce the expected impacts after their implementation (i.e. a success)?

CHINA

21. The expected goals have been basically reached. The successful examples are followings:

(1) The number of existing Giant Pandas is about 1000 in China, and the population becomes gradually stable;

(2) Crested ibis is the worldwide-endangered bird. When it is discovered in 1981, there are only seven, at present, there are more than three hundreds;

(3) About four hundreds breeding stations of rare plants for ex-situ conservation and germplasm resource bases and more than one hundred and twenty vivaria have been established step by step. More than 1800 species of plants have been protected and about 90 percent of national protected wild flora has been off-site conserved. Now man-made breeding of rare plants, which only distribute in China, such as Cathay Silver Fir (*Cathaya argyrohylla*), Dawn Redwood (*Metasequia glyptostroboides*), Dovetree (*Davidia involucrata*) and etc. has been succeeded.

DENMARK

Programme element 1, Goal 2, Objective 6: To prevent and mitigate losses due to fragmentation and conversion to other land uses.

22. Denmark has, as a low forest cover country, over centuries promoted afforestation programmes for various reasons, and they have changed over time. Since 1989 the programme has been intensified and based on an integrated land use planning taking into account both economic, social/recreational and environmental concerns and opportunities. This has been done both through state forest plantations and, mainly, incentives provided to private landowners. Mitigation of negative impacts of fragmentation of forest land and other significant nature sites is an important criteria for the selection of locations, and for the more detailed planning of the establishment of the new forest and nature landscapes.

23. Another contribution is the establishments of wind mantles on arable land.
In both programmes incentives is given for the use of domestic species and for the establishment of a mixture of species, which benefits biological diversity.

24. The impact of the programmes has been a significant improvement for the wild flora and fauna, including those important for forest biological diversity. These efforts has partly, but not fully, compensated the negative impacts of the reduction and fragmentation of forests and nature sites in the open land.

Programme element 1, Goal 4, Objective 4: Develop effective and equitable information systems and strategies and promote implementation of those strategies for in situ and ex situ conservation and sustainable use of forest genetic diversity, and support countries in their implementation and monitoring.

25. Areas reserved for *in situ* conservation of priority species has been identified. Germplasm has been collected and breeding programmes are taking place. The incentives and regulations on the use of species and provenances will further expand the area of prioritized forest genetic resources.

26. International Denmark has provided technical and financial support to the development of regional status and action plans for the use and conservation of forest genetic resources for the following regions: Sahelian Africa, East and South Africa (SADC), the Pacific region and Central America.

ESTONIA

27. One of the success stories in implementation of priority activities is the carrying out the Woodland Key Habitats process in Estonia. If the managers of the state forests are committed to establishing larger strict nature reserves as well as to conserving key habitats in commercial forests, then the level of awareness of more than 45 thousand private forest owners in Estonia needed to be increased. In Sweden the inventory of Woodland Key Habitats and application of legal measures for the protection of such habitats had been initiated prior to the Estonian process already. As the resources and level of experience of Swedish forest owners were significantly greater than those of Estonian private forest owners at that time, it was practical for Estonia to develop its own approach for identification, conservation and management of Woodland Key Habitats.

28. The concept was initiated by the Estonian Forestry Development Programme (1995–1997), supported by the Estonian Forest Policy (1997), and the protection measures enforced by the Forest Act (1998). As the beginning, the inventory was launched as a joint Estonian-Swedish project in 1999 to assess the distribution of forest habitats of highest value in managed forest. The main outcome of the project – the detailed and illustrated results of the woodland key habitats inventory, including area and numbers, lists of types, elements, indicator species and habitat specialists were made available for wide public in the form of fancy publication. All the 7007 woodland key habitat sites detected by the inventory covering an area of 19,059 ha have been mapped and drawn at the detailed national atlas as a part of the same document.

GERMANY

29. For information on progress achieved with respect to the objectives of the Programme of Work, please compare the answers to the respective questions below.

IRELAND

- Field officers, inspectors and staff of both the Forest Service and the National Parks and Wildlife Service ensure compliance with legislation.
- The Native Woodland Scheme was developed in conjunction with a wide range of interested parties and it includes a successful training and publicity programme. It was preceded by the Peoples Millennium Forests (2000) which included an outreach programme and a very effective publicity programme.
- Forest Biodiversity Guidelines are implemented for all operations, particularly in plantation forests.
- A National Forest Inventory with a biodiversity component is being developed.
- Goal of 30% broadleaf afforestation by 2006 is being pursued and is to be realised.
- Local provenances and seed stands are being registered and documented and use of local provenances is encouraged in the Native Woodland Scheme.
- Revised forest legislation is being drafted.

30. Research is ongoing. Ireland is in the course of expanding a biological records centre.

POLAND

31. The main rules of sustainable forest management, including provisions, relating to the forest biodiversity, were elaborated by the National Forestry Policy (approved by Polish Government in 1997). The above mentioned document goes in line with not only the expanded Programme of Work on Forest Biological Diversity but also with the international agreements especially with the aims of Resolutions adopted on the Ministerial Conference on the Protection of Forests in Europe (MCPFE). The fulfilment of the Element 1 (Objective 1) would be very important from point of view of international agreements to which Poland is a Party.

SRI LANKA

National Conservation Review (NCR)

32. The objective of NCR is to define a national system of protected areas in which watersheds important for soil conservation and hydrology are protected and forest biodiversity is fully represented, while meeting the cultural, economic and social needs of the country.

33. The NCR of Sri Lanka was carried out by the Forest Department with technical assistance from IUCN – the World Conservation Union. This unique exercise constituted a systematic assessment of biodiversity in the natural forests of the country. The review covered all natural forests in the country of 200 ha or more, except those in sections of the north and east which were inaccessible due to political unrest. Between April 1991 and September 1996, 204 forests were subject to biodiversity assessment. 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 country-wide scale to date. The study has yielded 69,400 records of 1,153 woody plant species and 24,000 records of 410 faunal species. A total of 281 forests were also evaluated for their importance in soil and water conservation.

34. The NCR reveals that, although Sri Lanka has an extensive protected area network covering almost 14% of its land area, critical gaps exist in the context of biodiversity and hydrology conservation. The present protected area network does not adequately represent some floristic regions of the country, including areas that occur within the biodiversity rich wet zone.

Conservation of Threatened Species and their habitats: Reviewing existing legal instruments and prepare a national strategy for species conservation is important to afford protection and recovery to threatened species of indigenous plants and animals and their populations.

35. IUCN Sri Lanka took an initiative in 1998 to prepare a list of nationally threatened species, using a set of objectively and scientifically defined criteria. This nationally important activity was done through an intensely participatory process, with the contributions of a large number of national experts.

36. Development of a National Species Conservation Strategy which is being formulated by the Ministry of Environment in collaboration with IUCN- Sri Lanka will facilitate field-level conservation plans, continued research and monitoring; policy and legislative reform and coordination; and targeted education and awareness programs.

SWEDEN

37. See the answer under question number one.

SWITZERLAND

38. Over the last 20 years, Switzerland has achieved a lot in managing and preserving forest biological diversity (e.g. close-to-nature forest management, leaving snags or coarse woody debris etc).

39. With respect to priority goals, objectives and activities included in the expanded programme of work on biological diversity see response for question 1.

3. Were there any challenges/impediments to the implementation of priority activities that could have negatively affected their chance of success?

CHINA

40. (1) China is the most population country in the world. The population has brought about high pressure on forest resource management, which has caused some unsustainable human activities and loss and severe threat of forest biodiversity.

41. (2) The activities of uncontrolled hunting and exploiting medicinal herbs and other economic plants are the key reasons to lead threat of biodiversity. For example, South China tiger and wild camel and other species are to be extinct, Liquorice and Nostoc (*flagelliforme*) and etc. have been excessively collected, which not only makes resources lost, but also destroys ecology and environment.

42. (3) The impacts of forest over-cutting on biodiversity are mostly as following: the reduction of forest community type and destruction of forest habitats lead fauna and flora species lost or migrated.

43. (4) In recent, the area of forest diseases and insect pests is about eight million hectares each year.

44. (5) The impacts of plantation development on bio-diversity are mostly as following: forest plantation development of great scale at the cost of destroying natural forest with abundant biodiversity, mono-variety and simple structure of forest plantation, loss of natural forests and irrational establishment and management of forest plantation, all of these have caused the severe loss of forest biodiversity.
In addition, environment pollution and forest fire also threaten to the biodiversity management and sustainable uses.

DENMARK

45. Resources are limited which makes it necessary to prioritize. This is a common problem for state forest and private owned forests. For private owned forests a constraint could be owners management objective in case it does not put high priority on forest biological diversity.

ESTONIA

46. A number of the defined forest policy principles and fixed in the Estonian Forest Policy adopted by the Parliament in the summer of 1997 have been implemented.

47. Some goals have been achieved but their achievement has been considered inadequate in the light of our increased knowledge and new approach. So, the area of strictly protected forests considerably exceeds the 4% threshold established in 1997, however, it should still be increased to preserve a number of species. A number of the previously established goals are still far from being reached. So, forest inventories have not kept pace with the land reform; private forest owners are lacking smoothly

functioning support structures; the assessment of the protection value of forests has not been completed and quite often effective protection measures have not been introduced; there is no satisfactory environmental planning and monitoring system.

48. Successful implementation of the Forest Policy has been retarded by the lack of an integral plan of implementation measures.

GERMANY

49. Problems in achieving the objectives of the Programme of Work arise in part from methodological (e.g. in the area of valuation of biodiversity) and economic constraints. The integration of forest biodiversity considerations into the policies of other sectors in order to reduce adverse external impacts still needs to be improved. Examples of major negative factors influencing biodiversity in German forests are immissions of nutrients and pollutants, and the fragmentation of forest areas.

IRELAND

50. National budgets have a facilitating and constraining influence on all of the above. The Native Woodland Scheme for 2003 has been reduced from that planned due to national budgetary considerations. The inventory of broadleaf woodlands has also been reduced.

POLAND

51. One of the most important challenges for the Polish forestry is now further improvement of sustainable forest management that have been elaborated by the National Forestry Policy. The elaboration of additional documents such as Regional Operational Programmes of the National Forest Policy, that are being conducted now, as a result should meet the aims of the above mentioned Objective 1 of the expanded Programme of Work on Forest Biological Diversity.

SRI LANKA

52. Financial constraints, lack of technical capacity, shortage of trained man power and poor participation of the other line Ministries/ Departments affects the successful implementation of the activities.

SWEDEN

53. **N/A**

SWITZERLAND

54. With respect to priority goals, objectives and activities included in the expanded programme of work see response for question 1.

55. It is important to note that the overlap/duplication among the various international environment-related processes (e.g. climate, biodiversity, forest, desertification etc) presents in itself challenges and impediments in the identification of priorities, the implementation and the reporting. Treating the same issues in different processes in slightly different ways requires an increasing amount of coordination time at the implementation level, as different people and/or institutions require different reports at different times. Short, for small countries like Switzerland this makes it increasingly difficult to comply with all the different international obligations. Not only because of the stagnation, or diminution respectively, of the available administrative resources, but also because of the increasing difficulty to involve public and private actors in the many existing processes (stakeholder fatigue').

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?**

AUSTRIA

Collaboration takes place within the Ministerial Conference on the Protection of Forests in Europe (MCPFE). Austria has signed and followed up a number of resolutions with specific relevance to FBD. Most recently Austria signed the Vienna Resolution V4 "Conserving and enhancing forest biological diversity in Europe" of the MCPFE which strives for co-ordinated implementation of the CBD Expanded Programme of Work and contains a framework for co-operation between MCPFE and "Environment for Europe" Process through the Pan-European Biological and Landscape Diversity Strategy (PEBLDS). The framework agreement identifies areas for co-operation between the two processes, which currently are going to be operationalized by identifying activities for its implementation.

Being a member of the European Union, Austria collaborates with other EU member states as regards biological diversity. Several activities contained in the Programme of Work are implemented by common activities (e.g. protection of community forests against atmospheric pollution, forest fires, etc.).

CHINA

In recent years, China has strengthened cooperation with all other countries and international organizations to push forest biodiversity conservation and sustainable use.

China has developed national and local criteria and indicators consistent with ITTO, the Montreal Process, and the new Regional Initiative for Dry Forests in Asia. UNDP and FAO have provided support for this effort through the "Capacity Building, Research and Extension for Sustainable Forest Management Project." Currently, testing of criteria and indicators is being carried out in three eco-zones of the country.

China has joined Convention on International Trade of Endangered Species of Wild Fauna and Flora, United National Convention on Biological Diversity and the Convention on Wetland.

The Government of China has signed the agreements with Japan, Austria, America, India and Russia. China side has cooperated with the World Bank, United National Development Program, WWF and other international organizations and non-governmental organizations. In accordance with incomplete statistics data, China has gotten about $100 million, more than 100 cooperative programs, and program areas have covered 20 provinces. By international cooperation and exchanges, China side has learned advanced technology and management experiences, and professionals have been trained, and forest biodiversity conservation and sustainable uses has been pushed.

In addition, China cooperates and communicates with concerned departments in USA, Canada, Japan, Australia, Russia, etc. in the field of nature reserves, which has improved the management level and management technology of Chinese nature reserves.

DENMARK

Denmark participates actively in the MCPFE-process (Ministerial Conference on the Protection of Forests in Europe), which recently adopted Vienna resolution no. 4 on Forest Biological Diversity in which the

forest ministers from the signatory states commits themselves to strive for implementation of the CBD work programme on forest biological diversity.

Denmark participates furthermore in a number of international fora in which improvement of forest biological diversity either is a key issue in itself or is taken into due consideration as an integral part of other sector strategies and action plans etc.

At present, important fora for such dialogue include the United Nations Forum on Forests (UNFF), the Convention on Biological Diversity (CBD), the Convention to Combat Desertification and the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol. Denmark is also actively participating in discussions in the UN Food and Agricultural Organisation (FAO), the International Tropical Timber Organization (ITTO) and in various programmes within the context of for instance the Consultative Group on International Agricultural Research (CGIAR) which among other things includes research institutions dealing with forestry, agroforestry and plant genetic resources, and the Global Environment Facility (GEF) which finances projects related to conservation of forest biological diversity. As a member state of the European Union Denmark is co-ordinating with the other EU member states in international negotiations on forest, and Denmark is actively participating in forest policy activities within the context of the EU. Furthermore, Denmark actively participates in the Nordic Council of Ministers, the Baltic 21 Forest Sector as well their jointly established Consultation Committee for Agriculture and Forestry. At the regional scale Denmark furthermore participates actively in the Environment for Europe and the PEBDLS process (Pan European Biodiversity and Landscape Strategy).

ESTONIA

There is collaboration in a limited scope with some neighbouring governments like Finland, Sweden and Denmark as well as within certain regional initiatives like Baltic Environmental Forum, Agenda 21 for the Baltic Sea Region, etc.

GERMANY

Germany is collaborating with other countries, organizations and processes on activities contained in the Programme of Work within the framework of, inter alia, transboundary cooperation with neighbouring states, EU activities, bilateral and multilateral development cooperation, scientific-technological cooperation and processes such as the Ministerial Conference on the Protection of Forests in Europe, the Pan-European Biological and Landscape Diversity Strategy or the FAO programmes on genetic resources.

Activities where extensive collaboration is taking place include:

- the establishment of ecological corridors on a national and regional basis (e.g. EU Habitats and Birds Directives, Convention on Migratory Species, Ramsar Convention)

- the development and implementation of conservation strategies for endemic and threatened species for global or regional application (e.g. EU Habitats and Birds Directives, Convention on Migratory Species, Ramsar Convention)

- regional cooperation and work on the sustainable use of timber and non-timber forest products and services, including via technology transfer and capacity-building within and between regions (e.g. activities of the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), projects in the field of scientific-technical cooperation supported by the Federal Ministry of Education and Research (BMBF))

- providing input on ways and means to encourage and assist importing countries to prevent the entry of unsustainably harvested forest resources (Germany is supporting efforts to take action on forest law enforcement, governance and trade at EU level)

- the development of a holistic framework for the conservation and management of forest genetic resources (e.g. participation in the European Forest Genetic Resources Programme EUFORGEN)

- the harmonization of policies at regional and subregional levels in the area of forest biological diversity (e.g. through the Ministerial Conference on the Protection of Forests in Europe, PEBLDS, EU conservation programmes, Alpine Convention)

the development of criteria and indicators for forest biological diversity (e.g. Ministerial Conference on the Protection of Forests in Europe).

The basic conviction behind German forest-related development cooperation is that forests make a highly significant contribution to poverty alleviation and sustainable development and that forest-dependent communities are the best protectors of forests provided they recognise their interest. Maintaining the forests' indispensable, global, ecological balancing functions is of vital importance. Since most of the underlying causes for deforestation lie outside the forest sector, sustainable and effective forest development policy must take a cross-sectoral approach and involve civil society. Since 1992, Germany has supported the UNCED process as well as implementation of the CBD through National Biodiversity Strategies and Action Plans (NBSAP) and the International Arrangement on Forests comprising the United Nations Forum on Forests (UNFF) and the Collaborative Partnership on Forests (CPF). The CBD's ecosystem approach is considered to be helpful in integrating biodiversity more effectively into cross-sectoral policies. Support is provided within the framework of the IPF/IFF Proposals for Action and the **expanded programme of work on forest biological diversity,** both of which must be integrated into Poverty Reduction Strategies or other national development strategies. Since 1992, Germany has allocated more than € 0.75 billion to implementing the CBD.

Between 1991 and 2002, Germany supported the biodiversity portfolio of the Global Environment Facility (GEF), Operational Programme No. 3 of which explicitly relates to forest ecosystems, to the tune of € 506 million. Furthermore, Germany supports the Consultative Group on International Agriculture Research (CGIAR) system and the Special Programme for Developing Countries of the International Union of Forest Research Organizations (IUFRO).

The bulk of Germany's development assistance is bi-lateral. Taking account of national sovereignty and national demands, Germany aims to simultaneously implement projects at micro-, meso- and macro-level. Collaboration with other donors, whether formal or informal, is increasingly replacing hitherto bilateral stand-alone projects. In combination with nfps and certification, this approach enables us (i) to build ownership, (ii) to link all relevant stakeholders, horizontally and vertically and (iii) to support good governance and transparency as well as decentralization.

Germany's development assistance in the forest sector is based on the revised Sector Concept "Forests and Sustainable Development" (BMZ, Ministry for Economic Cooperation and Development, 2002). It acknowledges the potential of nfps and, together with specific social and ecological safeguards, makes them a centrepiece of development cooperation in the sector. It focuses on poverty alleviation and on safeguarding global forest functions with an emphasis on policy coherence. In that respect, **Programme Element 2** of the expanded work programme on forest biological diversity "Institutional and socio-economic enabling environment" is a crucial part of German forest biodiversity-related DC. Furthermore, as a matter of principle, Germany is applying the Ecosystem Approach Element 1, Goal 1 "applying the ecosystem approach". Generally speaking, German DC follows the basic conviction that both protection and sustainable use are needed.

As part of the activities in implementing **Element 2, Goal 1, objective 4** (2.1.4) Germany supports the development of the EU Action Plan on Forest Law Enforcement, Governance and Trade (FLEGT) to combat the illicit production of 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 vis-à-vis forest conservation and related aspects has always been and continues to be a major part of Germany's development cooperation programme. Institutional strengthening, capacity building, policy development, indigenous rights and comprehensive land-use planning, mostly within the framework of national forest programmes, are focal areas, whereby due

consideration is given to regional needs. Most projects are a combination of technical and financial assistance, the latter used to finance the replication of concepts developed by technical cooperation as well as infrastructure in protected areas. An increasing number of projects are transformed into programmes at national or sub-national levels.

The total annual volume of Germany's forest-related bi-lateral development programme amounts to € 125 million, around one-quarter of which is allocated to nature conservation projects/programmes.

There are on-going efforts to support partner countries of German development cooperation in finding innovative funding sources for forest conservation, such as Debt-for-Nature-Swaps (e.g. in Peru, Madagascar).

Since 1985, Germany has supported more than 300 projects worldwide which contribute to the conservation and sustainable use of (forest) biological diversity. The following list provides an overview of Germany's current forest-relevant **technical and financial cooperation** projects:

	Africa	**Latin America**	**Asia**	**Europe**
Forest Biodiversity / Resource Conservation	18	21	10	2
Sustainable Use	24	18	10	1
Social Forestry / Indigenous People	11	6	2	-
Reforestation and Afforestation	10	3	35	-
Institutional Strengthening / Forest Policy	19	9	6	1
Capacity Building / Research Support	3	1	5	2
Forest Industry	2	-	3	-
Total	**87**	**58**	**36**	**6**

Through these programmes and projects, Germany contributes to the implementation of the entire "expanded work programme on forest biological diversity". International initiatives such as the NFP Facility and the Programme on Forests (PROFOR II,) hosted by the FAO and the World Bank respectively, are also supported.

Areas of technical cooperation include (*inter alia*):

- Nature and resource conservation through the management of protected areas and buffer zones (in response to Programme Element 1). Examples include management of the Pendjari National Park in Benin (€ 5.3 million, 1999-2005), the conservation of tropical forests in Gran Sumaco in Ecuador (€ 5.5 million, 1995-2005), and resource conservation and rural development in the Bosawas region in Nicaragua (€ 11.7 million, 1994-2004).
- Sustainable use of forest resources and social forestry as well as protection of the cultural identity and strengthening of indigenous people through the development of sustainable and participatory use concepts (in response to Programme Element 1). Examples include the following projects: Integrated forestry in Adaba-Dodola, Ethiopia (€ 5.7 million 1990-2003), Integrated management of local

agricultural and forest resources in Benin (€ 10.6 million, 1991-2003), and the sustainable use of land and forests of the Rio San Juan in Nicaragua (€ 5.6 million, 1997-2005).

- Improvement of capacity in partner countries through institution building, advisory services and training (in response to Programme Element 2). Examples include the "Churia Forest Development Project" in Nepal (€ 11.25 million 1992 – 2007), "Advisor to the Ministry of Environment and Forestry" in Cameroon (€ 1.28 million, 1997 – 2004), and the support of the development of a national forest programme in Colombia (€ 2.1 million, 1997-2005).

- Knowledge and technology transfer in the fields of forest ecosystem characterization, surveys and monitoring (in response to Programme Element 3). Examples are the project on land use planning and resource management in Oromiya, Ethiopia (€ 5.7 million, 1996-2006); Management of the Pendjari National Park, Benin (€ 4.1 million, 1999-2005);Strengthening the National System of Protected Areas in Peru (€ 8.5 million, 1991-2006); Monitoring and Information System for the San Bei Forest Shelter Belt Development Programme (€ 3.1 million, 1998-2005).

Germany co-operates with international NGOs (IUCN, WRI, WWF) in projects focusing on issues such as protected area management or environmental education and awareness-raising (such as the establishment of a rainforest information centre in Malaysia).

German development co-operation is devoting increasing attention to the support of regional processes and partners in the field of sustainable forest development, with a particular focus on three regions:

- Congo Basin: Germany is partner to the Congo Basin Forest Partnership (CBFP) launched as a Type II Initiative at WSSD. Germany supports the secretariat of the Conference of Ministers in Charge of Forests in Central Africa (COMIFAC).
- Southeast Asia: Germany supports the ASEAN secretariat with the establishment of a special forest unit and the development of a regional forest programme for Southeast Asia.
- Amazon Basin: Germany supports the linking of experiences of all countries in the Amazon Basin and the development of a regional forest programme.

Besides these focal areas, Germany also maintains about ten regional projects in Africa (e.g. Southern African Wildlife College), Asia (Mekong River Commission, and ICIMOD) and Latin America (Caribbean Institute of Environmental Protection, CEHI and ICIMOD).

Financial cooperation comes into play when investment capital is needed for forest protection and SFM but cannot be raised by the executing institution and when it is not possible (due to risk assessment, for example) or expedient to obtain it from the private sector. Examples include the "Afforestation Programme Yangtze" in China (€ 57.53 million 1995 – 2010) and a number of reforestation projects in Vietnam (€ 25.56 million 1995 – 2006).

Financial cooperation is also important for many nature conservation projects, such as "Protection of the Mata Atlantica" in Brazil (€ 27.6 million 2002 – 2006), Rio Plátano Biosphere Reserve in Honduras (€ 7.4 million 1997 – 2003), and National Parks in Madagascar (€ 10.23 million 1997 – 2007; € 9.2 million 1993 - 2005). In the latter case, the NGOs CI and WWF Madagascar are executing three projects on behalf of the German development bank KfW <Reconstruction Loan Corporation>.

Programmes are often executed as a combination of technical and financial cooperation, e.g. in Benin "sustainable forest management" (FC € 12.2 million (1998 – 2006) and TC € 2.8 million), Integrated

Forest Fire Management in Indonesia (TC € 6.75 million 1993 - 2003, FC € 9.77 million 1997 - 2002) as well as "Management of Forest and Rural Resources" in Guinea (FC approximately € 20 million (1994 – 2003) and TC € 2.8 million)

One of the most important examples of German development cooperation in the context of SFM is the Pilot Programme PPG 7 in Brazil. Since 1992, Germany has contributed approximately 45 % of the total programme budget with funding in excess of € 250 million.

The following supra-regional sectoral projects offer specific conceptual inputs on selected aspects of the conservation and sustainable use of forest biological resources at all levels within German development co-operation;

- The project entitled *"Implementing the Biodiversity Convention"* is intended to help accelerate implementation of the Convention in development co-operation areas where Germany is involved, and to promote the further development of the Convention itself, its tools and bodies. The project promotes both large individual projects and small-scale activities. The emphasis is on projects with an innovative (pilot) character, as well as model projects. Some individual projects deal also with aspects of the conservation of forest diversity and sustainable use of forest biological resources.

- "IWRP-Services" is a sector project targeting International Forest-Related Processes. It works to improve the efficiency of these processes to facilitate implementation on the ground. The strategy is framed around three components: (i) to use and transmit knowledge: lending support to Germany's Federal Ministry for Economic Co-operation and Development in shaping international forest-related processes on the basis of experiences accumulated in development co-operation projects. (ii) to build new knowledge: processing information and learning experiences derived from national forest programmes and incorporating it into international forest-related processes. (iii) to secure sustainability: incorporating concepts and instruments of international forest-related processes into German development co-operation projects and concepts.

- The *"Protected Area Management (ABS) / Livelihood Systems and Tropical Forest Areas (LISTRA)"* project aims to support and distribute the innovative strategies of NGOs for protected areas. In co-operation with projects supported by German development organisations, NGOs and other key players are encouraged to accept responsibility for the management of protected areas.

IRELAND

Ireland has signed the pan–European Lisbon Agreement (1998) at the Third Ministerial Conference on the Protection of Forests in Europe and has participated in the Fourth Ministerial Conference on the Protection of Forests in Europe. It has improved and developed the indicators relating to the criteria pertaining to Sustainable Forest Management (SFM) (including Criterion 4 – the biodiversity criterion).

Ireland is an active participant in the United Nations Forum on Forests

COST Actions –Ireland continues to play an active role in the Cost Action programmes. In the past, Ireland was involved in Cost E4 Forest Reserves Research Network, Databank of Forest Reserves suitable for Research. Currently, Ireland is participating in both Cost Action E25, ENFORS which is in the process of establishing a database of forest ecosystem research sites and Cost Action E27, PROFOR, which is looking at protected forest areas in Europe, analysis and harmonisation. Natura 2000 sites in Ireland are composed of SACs and SPAs and includes semi-natural woodlands.

Ireland is an active member of many other international forestry and conservation processes.

POLAND

The main direction of Polish activities concerning the co-operation on the expanded programme of work within the regional process is focused on a collaboration with the European Countries – Parties to the Ministerial Conference on the Protection of Forests in Europe (MCPFE). The issues connected with the Ecosystem Approach and the Forest Biodiversity were covered by the Vienna Declaration and the Vienna Conference Resolution no. 4 "Conserving and Enhancing Forest Biodiversity".

Poland will have been the president of the MCPFE since 2004.

Poland, as a member of General Co-ordinating Committee of the MCPFE, is one of the four countries sharing the MCPFE annual budget. The budget is spent, *inter alia*, on Expert Level Meetings held twice a year, as well as other MCPFE activities. Several Central and Eastern European Countries receive financial aid to allow them to participate in the above mentioned meetings.

The preservation of durability of forests is maintained particularly through the development of international co-operation, including co-operation agreements, participation in regional (European) and global conferences, participation in works of various organisations, such as OECD, ECE UN, the Timber Committee of the UNECE, the European Forestry Commission of FAO, and the International Union of the Forest Research Organizations (IUFRO), European Forest Institute and the European Forester's Union.

SRI LANKA

The Government of Sri Lanka collaborate with IUCN Sri Lanka to implement several activities of the program, e.g. mitigate the impacts of invasive alien species, conservation of threatened spp.etc. Several projects implemented by the financial and technical assistance of the other Governments are underway.

SWEDEN

As a member of The European Union we participate in the area protection network called Natura 2000, based on two directives – the bird directive and habitat directive.

We also collaborate within the pan European minister process.

SWITZERLAND

Switzerland plays an active role in the pan-european process 'Ministerial Conference for the protection of forests in Europe'. In the Vienna resolution 4 (2003) some activities of the expanded work programme were pointed out to be of high importance for the European region.

Switzerland also takes part and supports the Pan-European Biodiversity and Landscape Diversity Strategy, (PEBLDS) a common work programme between the Ministerial Conference 'Environment for Europe' and the 'Ministerial Conference for the protection of forests in Europe' (MCPFE). In the current work programme, which was passed by the ministers in Kiev and Vienna in spring 2003, the countries commit themselves to a certain number of priority actions of the CBD expanded programme of work on forest biological diversity.

With respect to the assessment of duplications between the IPF/IFF Proposals for action and the CBD expanded work programme, Switzerland welcomed the pioneer work done by Australia and PROFOR (World Bank).

5. Has your country developed practical methods, guidelines and/or indicators to apply the ecosystem approach in relation to sustainable forest management?

AUSTRIA

A case study on the application of the ecosystem approach in Austrian forests has been carried out and published by the Austrian Federal Environment Agency (HECKL/LEXER/VACIK/WOLFSLEHNER/HACKL, 2003, http://www.biodiv.at/chm/berichte/BE153/BE153.pdf). An English summary of this study has been made available to the CBD Secretariat and included in its list of case studies. Results of the aforementioned study as well as the ecosystem approach in general are being considered in the National Forest Dialogue which shall lead to the development of a National Forest Programme.

Further more, the MCPFE/PEBLDS framework agreement also includes further work on the implementation of the ecosystem approach on regional level.

In general there is no officially approved set of methods, guidelines and indicators to apply the ecosystem approach within forestry yet. Nevertheless, in many respects existing approaches and tools of sustainable forest management can be regarded as contributions to the implementation of major requirements of the ecosystem approach within the sector of forestry.

CHINA

With references from experiences of other countries, China side have been studying and designing the practical methods, guidelines and indicators to apply the ecosystem approach in relation to sustainable forest management. China National Forestry Economics and Development Research Centre and Chinese Academy of Forestry have taken the task.

DENMARK

Danish guidelines for forest management as outlined in the National Forest Programme from 2002 comply with sustainable forest management as defined by the Ministerial Conferences for Protection of Forests in Europe. Indicators for these guidelines (criteria) are being developed. This is intended to also comply with the principles outlined in the Ecosystem approach.
Denmark supports international efforts to establish consistency between the concepts of ”ecosystem approach” and ”sustainable forest management”.

ESTONIA

Estonia has integrated national forest programmes partly with national biodiversity strategy and action plan, as well as indirectly applying the ecosystem approach and sustainable forest management. It has been performed in the Estonian Forest Policy (1997); in advanced and more specific manner in decennial Estonian Forestry Development Plan (2002).

Actions that Estonia is taking to address the conservation and sustainable use of forest biological diversity conform to the ecosystem approach partly and indirectly.

GERMANY

In 2001, Germany conducted a research and development project examining the current state of forest use in Germany with regard to its compatibility with the principles of the ecosystem approach.[4] The findings of the study showed that, although many aspects of the ecosystem approach may be considered to have been met by the current practice of sustainable forest management in Germany, the wording of the principles and guidelines is too general to serve as concrete guidance for further action. Another study conducted by the Federal Research Centre for Forestry and Forest Products, Hamburg, endeavoured to compare the ecosystem approach versus sustainable forest management.[5]

As a consequence of and in response to the Expanded Programme of Work, the Federal Agency for Nature Conservation is preparing to support a research and development project on the further development and implementation of the Ecosystem Approach in selected forest biosphere reserves. This project aims to specify the requirements for implementation of the Ecosystem Approach within the context of forestry and to give advice on the establishment of an international network of forest areas for piloting and demonstrating the ecosystem approach as required in the programme of work.

IRELAND

It is a core value in Ireland's forest policy that forest development and operations must be sustainable and compatible with the protection of the environment.

This entails using the ecosystem approach by:

(a) Designating areas that have particular sensitivities and planning forestry with these to the fore – this is enshrined in legislation in the case of afforestation,

(b) Using published guidelines, including the Forest Biodiversity Guidelines, (the Forest Service Guidelines are obligatory and must be complied with) and the Code of Best Forest Practice to describe forest values appropriate to SFM and best planning and operational practice,

(c) Inspections to ensure compliance with the foregoing,

(d) Audit the Irish National Forest Standard to gauge changes over time,

(e) Coillte Teo (the State Forest Company) uses Forest Management Unit (FMU) planning, which is based on the ecosystem approach.

The sensitivities referred to at (a) above that relate to biodiversity include areas protected by legislation (SACs, SPAs, NHAs), areas with high acid sensitivity, waterways of particular sensitivities. There are consultative procedures in place for all of these areas. The Forest Biodiversity Guidelines mentioned at (b) above relate to all forest operations and forest types (and particularly to plantation forests). They describe habitats of particular value and set down requirements for biodiversity protection and enhancement.

The inventory and classification of broadleaf woodlands will provide a framework for the Native Woodland Scheme, selection of protected areas and biodiversity guidelines.

Legislation: Forestry Acts 1946 and 1988 make implicit the need for good forest management, control felling and make forest operations subject to the Wildlife and Planning Acts.

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4 The report is available in printed form from the German Federal Agency for Nature Conservation (BfN) and in electronic form at http://www.bfn.de/09/wald.pdf under the title "Sustainable forest management in Germany: The Ecosystem Approach of the Biodiversity Convention reconsidered"

5 The report is available in printed form from the Federal Research Centre for Forestry and Forestry Products (BfH) and in electronic form at http://www.biodiv.org under the title "Ecosystem Approach versus Sustainable Forest Management – Attempt at a comparison" by Hermann Ellenberg

Sustainable Forest Management (SFM): Ireland is a signatory to the Lisbon Agreement 1998. It has developed and published the Irish National Standard, which outlines the criteria and indicators relating to the national implementation of Sustainable Forest Management (SFM). Criterion 4 in this standard is "maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems".

Research: The BIOFOREST project, which is based mainly in University College Cork (UCC) is investigating biodiversity in plantation forestry and will augment existing research. The BIOSCAPE project which is based in UCC and the University of Limerick is examining the biodiversity of different forests and forested landscapes. The BioAssess project (the Biodiversity Assessment Tools Project) is developing a tool-box for assessing the impacts of policies on biodiversity in Europe, in addition it is measuring the impact of land-use change on biodiversity across Europe's biogeographic regions.

Indicative Forest Strategies are being developed for each county to identify the potential that future afforestation and forest management and harvesting can make towards the establishment of high quality forests serving a variety of purposes, including timber production, forest industry development, off-farm incomes, tourism, amenity and enhancement of the environment at a local level. The Native Woodland Scheme (NWS), launched in 2001, applies an ecosystem approach. NWS guidelines are under construction, NWS training course have been held and there has been a large attendance to date. The first woodlands participating in the scheme were approved this year and it is hoped to hold field days for participants in the near future.

POLAND

The guidelines connected with the ecosystem approach in relation to sustainable forest management (SFM) can be found within the framework provisions of the following documents: The Act on Forests (1991 with the later amendments) and the National Forestry Policy (NFP, 1997).

The Act on Forests contains many provisions that ensure sustainable forest management and maintenance of biological diversity of forests and takes account of: conservation of forests - their natural fragments, gene resources and landscape and climate; protection of forests and their sustainable use; conservation of biological diversity; protection against wild fires; conservation of protective forests (water-protecting, soil-protecting); protection of forests damaged by the industry; conservation of midland dunes, wildlife refuges, endangered species, plots of scientific importance and areas of special management. NFP settles obligations for forest management plan and inserts the programme of nature protection into the forest management plan. Its integral part forbids certain harmful activities in forests. Depending on their function, protective forests of different kind are subject to modified management procedures (e.g.: clear-cutting is limited, felling age is raised, species composition is adjusted to better meet the allotted task, recreational management is engaged, etc.).

The National Forestry Policy (1997) extends the meaning of nature conservation beyond the conservation itself, and with reference to all the forests. The goals of special protection of nature in forests are built into the concept of sustainable, balanced, and multifunctional forest economy, for example implementing forest management regulating rules into practice favours the fulfilment of nature conservation requirements.

Apart from the Act on Forests and the National Forestry Policy, certain guidelines on conservation of forest nature can be found in the following documents: National Programme of Forest Gene Resources Conservation and Selective Breeding of Forest Trees in Poland, in period 1991 – 2010 (1993), Decision No 23 by the Minister of the Environmental Protection, Natural Resources and Forestry concerning the protection of Bialowieza Primeval Forests (1994), Regulations by the General Director of State Forests on Establishment of Promotional Forest Complexes (1994, 1999 and 2002), National Programme of Augmentation of Forest Cover (1995, revised in 2002), Regulations of the General Director of State Forests: No 11 (1995) and No 11a (1999) on Forest Management Practice on Ecological Bases, Regulation of the General Director

of State Forests Establishing the Programme for Nature and Culture Values Protection in Forest Areas (1996), Complex Policy of Forest Resources Protection (1994), Instruction for the preparation of the Nature Protection Programme for forest district as an integrated part of the Forest Management Plan for each forest district 1996) the Instruction of Forest Management (1994).

The Polish forestry legislation respects all documents defining the global forestry policy framework, which includes: Forestry Principles adopted in Rio de Janeiro (1992), Agenda 21 (1992), IPF/IFF Proposals for Action, the Strasbourg Resolutions S1-6, the Helsinki Resolutions H 1-4 and the Resolutions L 1-2 adopted at the 3rd Ministerial Conference in Lisbon (1998). In 1996, amendments of several technical-economic documents, such as: Principles of Forest Management, Principles of Sylviculture and Instruction of Forest Protection, were implemented.

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.

The Forestry Practices Pursued In Poland Are In Line With A Global Trend, Set Out In The Forestry Principles, Adopted By 170 Countries During The Un Conference On The Environment And Development (Unced)In 1992. The European Commission Expressed An Opinion In A Report On The Bilateral Review Of Law Within The Agriculture Chapter Of Accession Negotiations That Polish Legislation Regarding Forestry Is Also Congruent With Eu Policy On Forests.

SRI LANKA

In the Biodiversity Conservation Action Plan biodiversity regions were identified primarily to facilitate the identification of spatially defined areas for conservation action.

The identification of bio-regions for Sri Lanka is a new concept, and the demarcation in to bio-regions as proposed in this Plan should be treated as provisional.

Establishment of Forest Estates.

SWEDEN

In the forest law is the general nature considerations for the biodiversity and other values regulated, e.g. nesting trees, groups of trees and single eternity trees are left after final felling or other cutting. We do regularly follow-up activities on implementation level of the law.

The Greener Forest concept is a way to show how forest owners voluntary can implement the Swedish forest policy (based on xxx) on the own property. To examples could be to invest in a Green management plan with long term classification of each stand; or voluntary set a side woodland key habitats – habitats with red-listed species and of great biodiversity preservation importance.

Overall Swedish legislation on forestry strongly supports Sustainable Forest Management (SFM). However, because the forest legislation is a basic minimum legislation, the achievement of SFM is dependent on how the forest owners cope with the responsibility to take necessary actions voluntarily beyond the minimum requirements of the legislation. So far, this has not been a major problem, although some negative developments have occurred. There has been no systematic analysis on how other legislation, such as tax legislation, may impact upon SFM. However, the evidence to date is that tax legislation is not, at least, an impeding factor for SFM.

SWITZERLAND

It is worth noting that it took over 10 years to have the concept of sustainable forest management (in a broad sense, including ecol., social and economic values) be accepted and understood at the implementation level. Sustainable forest management has been mentioned as primary objective in the federal law on forests since 1991. The pan-european criteria and indicators for sustainable forest management are now well established and used (e.g. framework for the national forest programme, framework for the reporting format for the Swiss National Forest Inventory and the Swiss Forest Report, reporting on sfm at the cantonal level etc). In the same time the Swiss Landscape Concept has been implemented as well as connectivity projects were finalised and implemented.

Starting fall/winter 2003 Switzerland will engage in a formal analysis of the two concepts 'ecosystem approach' and 'sustainable forest management', in order to get more clarification of the already existing commonalities and the possible complementarities.

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?

AUSTRIA

An action plan on invasive alien species – based on the CBD/COP6 Guiding Principles - is in process (to be finalized end of 2003). An inventory on IAS in Austria (ESSL & RABITSCH, 2002) has been carried out as well as activities to raise the awareness on the problem of IAS (booklet, expert meeting, homepage).
According to the Austrian Forest Act (amended in 2002) only a certain spectrum of tree-species is allowed to be planted. The invasive or potentially invasive nature of some of these species is currently discussed within the development of the action plan. According to the Austrian inventory of IAS, alien species are termed "potentially invasive" if they do not account for nature conservation-related problems in Austria for the time being but are known to cause such problems in neighbouring or biogeographically adjacent countries.
Nature protection laws of the federal provinces also have a range of restrictions concerning the spread of alien species.

CHINA

China pays attention to the prevention and control of alien species. The main measures are as follows.

China established and perfected plant quarantine laws. The Law on Quarantine of Imported and Exported Animals and Plants was passed in 1991. There are over 200 quarantine departments established at the ports, which formulate a comparatively complete supervision and monitoring network. China also set up the examination and approval system on introduction of aquatic and terrestrial wild animals.

China conducted the regional investigation and the research on biological control and comprehensive harnessing for a number of critical harmful alien plants, basically understood the occurrence, spreading and distribution of these alien plants across the country, and took some prevention and control measures.

China set up the prevention and control system for forest pests and diseases, implemented the control projects on longicorn, pine moth, Bursaphelenchus xylophilus and Hyphanteia cunea.

China has been founding over 500 national monitoring and forecasting centers since 1999, monitoring and forecasting 11 kinds of forest pests and diseases in China. Through the foundation of the national centers, the construction of local monitoring and forecasting stations of forest pests and diseases was promoted. The monitoring and forecasting network for critical forest pests and diseases was shaped across the country.

DENMARK

Alien invasive species are not a big problem in Danish forests but some preventive action has been taken.

State forest favor native species and also subsidies for private forest owners favor native species.
For some special protected forests the authorities have rights to remove alien species.

A network including a website for controlling and combating alien species has recently been developed.

Many local authorities have set up plans for / are implementing plans for combating alien species.

ESTONIA

Actions that Estonia is taking to address the 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 are developed, inter alia under the GEF funded project GF/2716-01-4354 “Assessment of Capacity building needs for Biodiversity and Participation in Clearing House Mechanism in Estonia”.

IRELAND

Two broad approaches:

1. Prevent the entry of invasive alien spp. through the enforcement of the EU Plant Health Directive (2000/29/EC). This entails, among other measures, port inspections, plant passports to accompany the transport of forest trees and forest produce and monitoring of designated forest plots.
2. Control of invasive alien spp. The Forest Service has devised a plant health contingency plan to be put in place in the event of a significant outbreak of insect damage to, or disease of, trees. Grant aid in the form of the Woodland Improvement Grant, the Native Woodland Scheme and the Reconstitution Grant are available for the control of invasive spp. such as *Rhododendron ponticum* and pests.

The National Biodiversity Plan includes a commitment to prepare a national study on alien species. To this end, a joint all-Ireland review of alien species has been initiated with Northern Ireland and is to report in 2004.

POLAND

According to the Nature Conservation Act of September (1991 with later amendments), the management of natural resources and components of nature is aimed at preservation of optimum numbers of domestic wild-living animals and plants, and protection of their genetic diversity as much as possible. At the same time, introducing into free nature and relocating animals and plants that are of foreign origin into domestic flora and fauna without the consent of the Minister of the Environment is prohibited. Due to the serious threat to the domestic biodiversity caused by alien invasive species, certain amendments were introduced to the Hunting Law Act (1995, revised in 2002) and to the Regulation on Establishment of a List of Game Animals and the Hunting Period for Them (1996, revised in 2001), for example hunting period for the American mink *(Mustela vison)* and the racoon dog *(Nyctereutes procynoides* was extended. The introduction of invasive alien species that threaten our ecosystems is a very important issue, but so far these species have not caused serious damage to Polish nature.

SRI LANKA

Sri Lanka has identified about 21 spp of flora and 13 spp of fauna as alien invasive. Several workshops and symposia were carried out with the involvement of different groups of stakeholders in identifying these spp. The Ministry of Environment has done a great deal of work to manage and control of alien invasive spp.in many parts of the country. Mapping the spread of U europaeus in Horton Plains , producing the national list of invasive plants, survey of the spread of some invasive plants, carrying out of field awareness programs for grass root level officers etc. are some of the activities organized by the Ministry. Apart from that custom regulations were strictly enforced to prevent any unnecessary introductions.

SWEDEN

Introduction of invasive alien species is not a significant problem in Swedish forest ecosystems. Nevertheless, we have a distinct legislation aiming to avoid import of timber, plants or animals causing damage to our forest ecosystems. To some extent we have the same legislation in European Union.

SWITZERLAND

Switzerland applies the European regulations and guidelines to counteract invasive alien species with a potential to cause damage. The regulations and guidelines include among other import and export conditions regarding packaging material and content as well as import and export conditions for timber and sawn timber.

7. Has your country taken any measures to mitigate the impact of pollution on forest biodiversity?

AUSTRIA

The Austrian Forest Act regulates the atmospheric pollution, which is damaging forests. The respective paragraphs are dedicated to prevent measurable damages to the forest soil or plant cover (forest vegetation)

A Forest Damaging Monitoring System has been carried out by the Federal Forest Research Centre (BFW).

The National Environmental Plan recommends measures to reduce athmosheric pollution damaging forests.

Various scientific studies have been funded and undertaken during the last two decades in order to investigate the effects of pollution such as acidification on forest ecosystem health and stability. In spite of considerable progress having been achieved, the exact impacts of athmospheric pollution on many species groups are still widely unknown on account of complex chemical synergies and antagonisms, metabolical processes, different reactions of individual species, the large number of chemical substances being released, etc.

Emission levels of many forest-effective air pollutants have been considerably reduced during the last decades.

CHINA

China pays attention to the prevention and control of alien species. The main measures are as follows.

China established and perfected plant quarantine laws. The Law on Quarantine of Imported and Exported Animals and Plants was passed in 1991. There are over 200 quarantine departments established at the ports, which formulate a comparatively complete supervision and monitoring network. China also set up the examination and approval system on introduction of aquatic and terrestrial wild animals.

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China has been founding over 500 national monitoring and forecasting centers since 1999, monitoring and forecasting 11 kinds of forest pests and diseases in China. Through the foundation of the national centers, the construction of local monitoring and forecasting stations of forest pests and diseases was promoted. The monitoring and forecasting network for critical forest pests and diseases was shaped across the country.

DENMARK

Research is taking place to increase the understanding of the impact of pollution on forest health.
Denmark has participated in the previous European forest health monitoring system and will also participate in the new, Forest Focus, as well as conducting a national forest inventory (NFI) which include forest health monitoring with systematic surveillance in a 2 x 2 km net covering the country. Both systems address forest health questions related to pollution as well as climate change. The NFI is furthermore in accordance with the Pan-European criteria for sustainable forest management.
General environmental policies are in place to reduce/prevent pollution from sources such as industry, energy production, vehicles, agriculture etc.
Current policies are aiming at a conversion of forest management practices towards sustainable forest management based on near-to-nature principles. This will entail more diverse forests of different species at different ages. In general, this type of forest will be less sensitive to stress factors caused by pollution, climate change, diseases etc.
Similar measures have been applied when forests were re-established after a major wind-fall disaster in December 1999.

ESTONIA

Over 100 km^2 of forest land has been degraded and polluted by oil shale open and underground mining activities and dumping of ash into heaps from oil shale fired power plants in NE Estonia. Another group

of degraded and polluted lands including forests are territories of former military bases of the Soviet Union. An inventory of those military sites listed 2900 sites contaminated to larger or lesser extent with chemicals, metal, minerals, construction, wood and domestic waste and oil pollution. These areas have partially been restored by afforestation.

GERMANY

In order to reduce inputs of pollutants and eutrophication in German forests, a large number of measures have been taken at national level over the past few decades, including the introduction and further development of the Federal Immission Control Act (BImSchG), the Ordinance on Large Combustion Plants (GFAVO) and tax benefits for the use of catalytic converters in cars.

Within the framework of the UNECE Convention on Long-range Transboundary Air Pollution and EU regulations, Germany has signed and ratified various protocols or adopted regulations aimed at reducing emissions of different pollutants. As such, measures have been taken to mitigate emissions of air pollutants, especially the new German regulation on national emission rates which represents an important step against acidification and eutrophication. At the time of signature the aspect “Forest Biodiversity” was not regarded as the driving force behind this process, but of course reduced emissions will also have a positive effect on the biodiversity of forest ecosystems.

With respect to sulphur dioxide, there have been decisive improvements in air quality, while nitrogen inputs in forests have thus far shown very little decrease. The consequences of past air pollution which has accumulated and altered soil conditions will constitute a critical burden for years to come (cf. the German National Report to the third session of UNFF).

In order to mitigate existing strains from pollution on forests, under certain circumstances compensatory fertilization (application of lime) is carried out with support from the Länder forest authorities and within the framework of the "Joint Task for the Improvement of Agricultural Structures and Coastal Protection". The ongoing efforts to promote ecological silviculture also contribute to the stabilisation of forest ecosystems because of the beneficial effects on soil quality by increasing the share of broad-leaved trees and avoiding clear-cuts.

IRELAND

Ireland and the EU have comprehensive legislation on pollution of soil, air and water. Efforts to reduce pollution are ongoing through the Integrated Pollution Control license from the Environmental Protection Agency that is required by companies that have a potential to pollute. Implementation of the EU Water Framework Directive will be a significant development. To date, Ireland has no carbon tax but efforts are on-going to promote and encourage sustainable energy use.

POLAND

One of the legal measures taken to mitigate the impact of pollution is maximum allowable amount of air polluting substances established within the Regulation by the Minister of the Environmental Protection, Natural Resources and Forestry (1998).

Permanent monitoring of the negative impacts of pollution on forest biodiversity is another method connected to the alleviation of the harmful influence of pollution on forests. This monitoring is conducted on the permanent observation plots (POP) of I and II level. There are currently 433 of I level POPs and 148 of II level POPs. Both first and second level POPs are subject of research programmes. The methodology of this research programme is recommended by the ICP-Forests (International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests) with exclusion to assessment of biotic elements of forest ecosystems. The following measurements and observations have

been carried out: monitoring of damage to stand (assessment of defoliation and discolouration of the assimilatory apparatus), monitoring of contamination with chemical elements, such as N, P, K, Pb in the assimilatory apparatus (chemical analyses of foliage samples), monitoring of health of pine seeds, monitoring of pollutant deposition (determination of concentrations of SO_2 and NO_2), estimation of population densities of leaf-eating insects in the coniferous stands, monitoring of phytophagous fungi.

The results of the above mentioned monitoring related to, *iner alia*, crown conditions, soil inventory, increment deposition, ground vegetation have showed a slight improvement of the level of health of forest stands. In Poland the results of analyses of composition of air pollutants over forest areas confirm a decreasing trend in concentration of SO_2 and NO_2, however, the rate for the second one is slower what may be related to an increase in road transport.

SRILANKA

National Environmental Act has given provisions for the implementation of EIA procedure and Environment protection Licences (EPL) and Environment Standards in Sri Lanka.

SWEDEN

We have been for decades combating the impact of pollution in all ecosystems, forests included. Three of the existing environmental quality objectives focus on pollution oriented problems: Reduced Climate Impact, Clean Air and Natural Acidification Only.

SWITZERLAND

Ordinance on Air Pollution Control with strict limitation of emission of stationary installations and requirements for fuel quality. Ratification of all the Protocols of the Convention on long-range transboundary air pollution (ratification of Gothenburg protocol in preparation). Emission reduction from maximum of the eighties for SO2 > 70 %, for NOx > 25 % and for VOC > 35 %.

8. Has your country taken any measures to mitigate the negative impacts of climate change on forest biodiversity?

The Austrian Climate Strategy to meet the Kyoto goals contains a cluster of forestry-related measures in order to increase overall forest ecosystem stability and adaptivity.

Guidelines for the financial support of reforestation and afforestation measures are strongly oriented towards the potentially natural vegetation since 1999.

Several studies have been carried out also dealing with priority restoration measures in forests which show destabilisation symptoms induced by climate change.

CHINA

In the past 50 years, the global has become warmer, the natural disasters have been taken place, which caused the degradations of forest systems, the conditions of species habitats have been worsen, which caused the loss of biodiversity, the issue should be solved. The higher CO2 concentration, temperature and rainfall changes has affected energy fluid of forest system, in the meantime, these effects may cause forest distribution, component and structures of forest ecological systems, and the distributions of fragile ecological belts and special ecological systems.

DENMARK

Research is taking place to increase the understanding of the impact of climate change on forest health. Denmark has participated in the previous European forest health monitoring system and will also participate in the new, Forest Focus, as well as conducting a national forest inventory (NFI) which include forest health monitoring with systematic surveillance in a 2 x 2 km net covering the country. Both systems address forest health questions related to pollution as well as climate change. The NFI is furthermore in accordance with the Pan-European criteria for sustainable forest management.

As explained above (item 7) conversion to sustainable forest management based on near-to-nature principles is expected to provide for more stable forests, less sensitive to various stress factors, including climate change.

ESTONIA

The research and monitoring activities being undertaken in Estonia to mitigate the impact of climate change on forest biodiversity include mainly the monitoring of relevant influences to forest ecosystems. Data management system is mainly based on two international reporting schemes – Sustainable Forest Management Criteria and Indicators of the Ministerial Conference on the Protection of Forests in Europe and Framework for UNFAO Global Forest Resources Assessment (notably List of indicators of the Temperate and Boreal Forest Resources Assessment 2000). Data collection of forestry related data in Estonia is carried out mainly during field inventory works (standwise forest inventory, NFI, inventories of felling, reforestation and damaged forest areas, forest monitoring in ICP Forest Framework etc). A preliminary review on the subject has been completed (Punning, 1999).

GERMANY

Concerning research and monitoring:

Research into the possible effects of climate change on forests and their biodiversity is being carried out in Germany by universities as well as private and state research institutions.

In-depth study of the impacts on forests and forestry in Germany and of options for action is the subject of the project “Forests and forestry in Germany in the context of global change (1997-2001)”, funded by the Federal Ministry of Education and Research.

Research areas under the DEKLIM (German Climate Impact Programme) fund with an emphasis on “research into the impacts of climate change” include: the climate sensitivity of the ecosphere and of particularly affected socio-economic systems, incorporation of socio-economic response patterns into existing climate models, study of methods for protection against climate changes and their impacts (research on the impact of measures), analysis of the resilience of different systems when faced with unexpected climate changes, and the relevant framework conditions at regional and global levels (climate-relevant resilience and governance research).

Numerous Länder and the Federal Government have launched forest-management programmes aimed at promoting the cultivation of semi-natural forests and thereby increasing the percentages of deciduous forest. These programmes are designed to improve the capability of forests to adapt to future climate conditions in Germany (warmer and especially dryer in summer), as semi-natural, deciduous forest is

better able to cope with the climate as well as more frequent pests and diseases than, for example, spruce or pine monocultures.

The monitoring activities initiated under the International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP) include indicators which allow conclusions to be drawn vis-à-vis the effects of climate on the condition and development of European forests. Germany takes a leading role in the planning and coordination of this programme.

Concerning measures taken:

According to the sector strategy for the conservation and sustainable use of biological diversity in German forests, silvicultural measures which help to maintain and/or increase the adaptability of forests are to be continued. Such measures may include the transformation of species- and structure-poor stands into more diverse and stable forest ecosystems, as required by the concept of ecological silviculture.

In addition to adaptation measures, Germany is pursuing an active policy to reduce emissions of climate-damaging gases as a contribution towards implementation of the Framework Convention on Climate Change.

IRELAND

The National Climate Change Strategy is in place and includes a commitment to afforestation as well as decreasing greenhouse gas production through reduced agricultural stocking levels, renewable energy generation, energy conservation, use of renewable materials etc.

POLAND

At the present time, absorption in Poland's forests compensates for c. 6% of national emissions of carbon dioxide. The Polish situation is thus in need of improving, inter alia, through: an increase of the area of forests by planting formerly agricultural land, a steady increase in a made of forest timber until this is in line with the permissible annual increment, a prolongation of a lifespan of wood products and encouragement of recycling, a reduction in emissions via the use of timber in place of fossil fuels, and an increase in carbon-retaining properties of soils.

The forest monitoring programme was introduced in 1989; however, the initial scope was greatly extended in 1995. During the period 1989 – 1994 significant changes in the level of threat to forests ecosystems posed by environmental factors was observed. A comprehensive increase in the number of devices limiting emission of gases and dusts, as well as the introduction of modern technologies into the industry resulted in improvement of the quality of atmosphere over Poland. Emission of gaseous pollutants, particularly sulphur dioxide, was decreased by ca. 50% and the level of dust emission was significantly lowered. A lesser decrease was observed in emission of nitrous dioxides. All these favourable changes contributed to improving the health status of forests in Poland. The decrease of the level of air pollution within forest areas, implementation of afforestation programmes and programmes on the increase of forest biological diversity and the area of protected forests create a realistic basis for gradual improvement of forest condition, also in the future. In case of deciduous forests, the improvement is most noticeable in birch and beech stands, and least noticeable in oak woods. In the nearest future, further improvement of health of the Polish forests can be expected.

The decline of threat posed by atmospheric pollutants enabled introducing into the forest monitoring programme new components aimed at relations between the forest management and environment and nature protection, namely assessment of carbon sequestration in forest ecosystems (as related to the Kyoto Protocol).

Having taken into account the role of forest in the mitigation of climate change, the process of elaboration of the National Forest Programme in Poland has just been launched by issuing in 2002 the Regulation No 65 by the General Director of the State Forests. These Regulations gave the framework guidelines for preparation of "Regional Operational Programmes of the Forestry Policy as a base for elaboration of the National Forest Programme".

SRI LANKA

Still the full impact of climate change on forest biodiversity is not clear. However, Some adaptation research studies are underway by the Climate Change Enabling Activity Project Phase II.

A new CDM policy is being developed by the Ministry of Environment.

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)?

AUSTRIA

Up to now – because of the temperate climate conditions - forest fires did not constitute a serious problem in Austria. However, due to extraordinary climate conditions during the last years, we had several forest fires in Austria.
Legislative regulations exist with regard to the prevention of forest fires (including the possibility for authorities to set a time-limited smoking prohibition in forests).
The State covers to some extent the forest fire insurance costs.
Comprehensive statistical data about forest fires are available.

CHINA

Without control of forest fires, forest fires resulted in deterioration of environments and descent of animal and plant resources. The forest soils were damaged to some degree. The withered shrub and leaf layer and semi-decomposed organic compound burnt up. In the meantime, forest fires also caused the habitats for wild fauna and flora loss, which threaten existence of wild fauna and flora; therefore, forest fires may reduce wild fauna and flora, even loss, which cause loss of biodiversity. In order to prevent and mitigate the adverse effects of forest fires and fire suppression, the measures have been taken the following measures.

Firstly, the central and local governments have increased financial inputs for controlling and preventing forest fires, fundamental constructions of forest fire controls have been improved and strengthened, for instance, the department of civil aviation and the air forces have properly arranged airplanes for forest fire watch, and the department of weather has been timely taken weather forecasts for forest fire risk and higher risk days.

Secondly, with the approval of the State Council and the Central Committee of Military of Communist Party of China. Forest fire squadrons of Sichuan, Tibet and Xinjiang have been founded; forest fire professions have been strengthened.

Thirdly, forest fire belts have been planted, the length of forest fire belts has been reached more than 400 thousand kilometers, the belt system for forest fire control has been formed in the south of China.

Fourthly, forest fire control organizations have been expanded, at present, there are 3085 forest fire control offices, 3257 forest fire management offices and the number of the staff is 16945 in China.

Fifthly, forest fire control law system has been updated, in 1988, the State Council stipulated “the Regulation on Forest Fire Control”, in accordance with the regulations, and local governments have been launched rules for forest fire control.
Finally, the responsibility system for forest fire control has been established in China, propagandas for forest fire control has been strengthened.

DENMARK

Forest fires occur in Denmark, and normal fire emergency measures are in place throughout the country. However, it is not a major problem, and no specific forest policy measures are needed. Exotic conifer species are presently dominating, but native deciduous species are gaining ground. This development is supported by Government policies. Deciduous forests will be less susceptible to fire as compared to conifer forests.

ESTONIA

According to *Estonian Forestry Development Programme Until 2010* the amount of silvicultural measures not yielding immediate profits like fire protection measures is too small. The strategy includes the task to bring the corresponding legislation into compliance with the requirements of the international standards for forest fire protection. The manager of state forests will build and reconstruct the fire protection systems of state forests. The state will support the implementation of similar measures in private forests pursuant to the National Forest Fire Protection Scheme and depending on the availability of the corresponding funds.

The adverse effects of fire suppression where fire is a natural disturbance agent currently are being considered in academic circles only.

GERMANY

For climatic reasons, Germany is not faced with particularly serious fire problems. The main fire problem areas are located in the northern part of the country where poor soils are associated with continental climate features. Technical equipment and the capacity to prevent and deal with forest fires are considered to be good.

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.

Since fire is not a prominent feature of natural disturbance regimes in all German forests, the effects of fire suppression on biological diversity are considered to be minimal. Nevertheless, the use of prescribed fire for conservation purposes has been discussed, with in the context of cultural landscapes with the aim of preventing the succession of open landscapes towards enclosed forest.

(cf. also the information provided on the subject in the FAO country profile of Germany)

IRELAND

Fire is not a major natural disturbance agent in Ireland compared to other countries and the majority of fires in Ireland are caused by humans, accidental and malicious). Forest owners take precautions to prevent fires in plantations by the construction of fire lines and through the implementation of fire plans. Owners of lands are required by legislation to take particular care when burning vegetation near forests. The allowable season for burning vegetation is set out in legislation.

POLAND

Forests in Poland are strongly endangered by fires, especially in the southern and western parts of the country. Fire hazard is created due to a combination of several phenomena, such as frequent periods without precipitation, air pollution, illegal meadow burning and intensive vehicle and tourist traffic.

The maintenance of biological diversity and sustainable forests through the protection against wild fires is ensured by the provisions of the Act on Forests (1991). According to the provisions of this Act, the forest owners are obliged to afforestation of damaged by fires areas within 5 years.

The Environmental Protection Law Act (2001), which regulates practically all issues related to environmental protection, demands i.e. protection of forests and stands against pollution and fire.
The above mentioned matters are also regulated by the Act on Fire Protection by the Minister of Interior and Administration (1991) and the Regulation by the Minister of Environmental Protection, Natural Resources and Forestry on the Detailed Rules of Forest Protection against Fire (1999). According the provisions of the above mentioned documents the protection against fire relates to the forest category and the level of fire threat. The permanent forest monitoring is conducted on the areas of the highest fire threat.

Following the provisions of the Regulation by Minister of Interior and Administration on the Protection against Fire of Buildings, Communal Objects and Areas (1992 with later amendments) and the Regulation by the Minister of the Environmental Protection, Natural Resources and Forestry on Detailed Rules of Forest Protection against Fire (1999 with later amendments), as well as the inner Instruction on the protection of forests against fires, all territory of Poland was divided into 3 main categories of fire risk (high, medium, low) relating to the habitat classes the classes of stand age, the number of fires within the last 10 years, industrial pollution, tourist traffic and climatic conditions.

Moreover, the State Forests recently installed a new system for early detection of fires, and reached a high level of organisational efficiency and technical outfitting of the fire prevention services, equipped with modern ground and air fire-fighting equipment.
The forest fire risk has increased, for instance in 2002 more than 10,000 fires occurred in Polish forests, almost two and a half times more than in the previous year.

SRI LANKA

Construction of fire belts in highly affected areas. Enforcement of strict laws to avoid accidental fires. Awareness programs, Popularization of fire resistant species, such as Acasia, Eucalyptus.

SWEDEN

In general, we have no problems with huge forest fires and adverse effects of that.

Instead, the present problem in the forest ecosystems in Sweden is the lack of natural disturbance by, for example, fire and water. The amount of forest fires is not in line with the ecological need. That situation cause a critical situation for species adapted to structural elements created by forest fire.

SWITZERLAND

Unless in an exceptional year like 2003 (very hot and dry summer), forest fire damage in Switzerland is negligible in comparison to other countries

Several measures are in place to prevent forest fires:

- According to the federal forest law on forests (1991) land remains forest land even though the forest is burnt. Changing the land use by speculative burning is thus not possible.
- In critical dry periods such as in summer 2003, individual cantons or the Federation can legally order a ban on setting any type of fire in the open (including camp fires). People acting against the order are fined.
- Fighting the fire is done by cantonal or local firemen. Their income is regular and independent on what type of fire they fight. Thus speculative burning does not pay off. The Swiss military provides additional men in case of catastrophies.

In sensitive areas likely to be damaged by forest fires the Swiss Federation contributes financially to installations such as water pipes, fire roads, and storage ponds in order to facilitate the fire fighting.

10. Is your country mitigating effects of the loss of natural disturbances necessary to maintain biodiversity in regions where these no longer occur?

AUSTRIA

The predominant portion of the Austrian forests is utilized for timber production purposes. In these forests the dynamics of natural ecological processes, succession cycles and natural disturbances, as they are typical of primeval and natural forests, are restricted or suppressed (e.g. natural collapsing of very old stands, gaps created by the collapse of individual trees or of small clusters of trees, natural regeneration of areas affected by windthrows or other natural catastrophes, high percentage of old wood and dead wood, etc.). Also the natural flood dynamics of floodplain forests has been considerably reduced by regulation of river systems and the building of hydro-electric power plants.

Examples of measures that have been taken to mitigate these effects include, inter alia:

- The installation of a network of nature forest reserves aiming at, inter alia, investigating natural ecological processes and developing respective methods of close-to-nature silviculture.
- In protected areas under nature conservation legislation, such as national parks, natural succession cycles and related disturbances are fostered.
- The Austrian Forest Act amended in 2002 grants exceptions to certain regulations in forests within nature protection areas which can be used to allow more natural processes to take place. For instance, after bark beetle attacks or windthrows it is now possible to leave a larger amount of dead wood in these forests without instantly having to remove it.
- Activities to restore some of the regulated floodplain forest ecosystems are taking place.
- Deregulations of river systems and close-to-nature river regulation techniques are being applied.

"Soft", close-to-nature techniques of torrent and avalanche control are being applied which allow natural ecological disturbances to a limited extent.

CHINA

By means of establishing national network of ecology, effects of the loss of natural disturbances necessary to maintain biodiversity in regions where these no longer occur have been not clearly identified, the potential measures have been under considerations.

DENMARK

Sudden natural disturbances are limited to windfall, which still occur.
A former subsidy scheme including subsidy to ditching and drainage has been stopped. Focus is now on reestablishing wet areas in forests.

ESTONIA

In order to maintain forest biodiversity the important forest elements ensuring the preservation of biodiversity (dead trees, stand structure resembling the natural structure, etc.) have been quite extensively preserved. In addition to that variety of methods simulating natural processes are being currently identified.

GERMANY

There is a certain lack of knowledge regarding the potential natural disturbance regimes in German forests. As a consequence of a high population density and centuries of multiple and often non-sustainable usage, large areas of primary forest are virtually absent throughout Middle Europe. Therefore, it is not possible to make any direct observations on forest dynamics beyond human influence.

Natural disturbances which are considered to be of importance for the maintenance of biodiversity include windthrow, flooding (in alluvial forests), earthslides and avalanches (in mountain forests) and possibly insect gradations following other disturbance events.

The facilitation of natural forest dynamics without human interference is a key objective in some of Germany's protected areas, especially national parks. However, problems in adhering to this objective may arise even in these areas because of conflicts with owners of surrounding land (as in the case of insect calamities) or questions of visitor safety (as in the case of tolerating standing dead wood close to footpaths and other infrastructure). Research and monitoring activities conducted in protected areas constitute an important step towards enhancing understanding of the role of natural disturbances in forest ecosystems and of possible ways to mitigate the consequences of their loss.

In forests outside of protected areas, natural disturbance cycles normally conflict with the economic interests of forest owners or state forest authorities. However, many of the principles of ecological silviculture serve to mitigate the loss of disturbances, e.g. by promoting and using natural processes (such as natural regeneration of stands) within the framework of forest management, 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.

In accordance with Germany's federal system, the *Länder* have the right to lay down forest management rules which are binding for state authorities and recommended on a voluntary basis for the management of private and local forests. In the past decades, all *Länder* have adopted management rules which take into account principles of ecological silviculture, although the details of such provisions vary.

IRELAND

Forestry Acts and the Wildlife Act (1976, 2000) in addition to other legislation such as Planning legislation provides protection to existing woodlands, while agricultural schemes give some protection and provide enhancement measures for hedgerows. (Hedgerows are a valuable component of woodland connectivity in Ireland.) Some areas of broadleaf woodland/scrub continue to be cleared. The Native Woodland Scheme places particular importance on connectivity in the creation of new native woodlands.

POLAND

There is a strong legal basis in Poland for preventing deforestation, reflected by the actions so as to increase forest area and preserve its continuity and biological diversity.

According to the Act on Forests (1991), the main principles used in running forest management in Poland are: general protection of forests, sustainable maintenance of forests, continuity of forest use and

enlargement of forest resources. In accordance with these principles, the State Forests and forest owners are obliged to ensure the continuity of forest use that includes an obligation for reintroduction of forest stands within 2 years after stand removal and within 5 years in case of damages caused by fires and/or other natural disasters.

Moreover, in accordance with the anticipated effects of the implementation of the National Policy on Forests (1997), a comprehensive protection of forest resources should ensure an increase of Polish forest cover up to 30 % by 2020.

Regardless of works related to the protection of existing forest ecosystems, the actions have been taken in order to increase the forest area. The concept of increasing the forest and tree cover, with a preference being afforded to the environment-creating role of forests, is a basic tenet of the National Programme for the Augmentation of Forest Cover, adopted by the Council of Ministers in 1995. The Programme provides an increase in the forest cover from the present 28.5% to 30% in the year 2020 and 33% in the year 2050, anticipating mobilisation of economic mechanisms that will stimulate the forest based use of land of marginal significance to agriculture, along with defining the spatial priorities reflecting the role of forests in shaping of the environment.

According to the provisions of the Act on Protection of Agricultural and Forest Lands (1995) the protection of forest lands is based “upon (…) limiting their assignation for non-forest or non-agricultural purposes, (…) prevention of processes of degradation or devastation of forest lands due to non-forest activity, (…) restoring of value of lands that were used for non-forest purposes and (…) improvement of their stability”.

The Environmental Protection Law Act (2001) regulates practically all issues related to the environmental protection. The demands such as “preservation of valuable ecosystems, biological diversity and natural balance (…), prevention and limitation of negative impacts that may influence negatively a state of plants and animals, protection of forests and stands against pollution and fire (…) and afforestation” are required due to natural needs.

A major influence on improving the habitat and stand quality will be exerted by introducing into 40-60 year-old pine stands broad-leaved understorey that will consist mainly of a single species. In addition, stand conversion measures, for instance an adjustment of the species composition to new ecological conditions reflecting pollution from the industry or transport, has been introduced. Also, agro-technical work has been carried out and supplementary drainage was installed throughout stands.

SRI LANKA

No.

SWEDEN

In a small scale we practice prescribed burning in some nature reserves in the boreal region.
In accordance to a certification scheme (the present FSC-standard in Sweden) some large forest owners practice prescribed burning by there own cost with the aim to promote the biodiversity.

SWITZERLAND

Programmes are in place by which riparian forests are restored in order to allow natural disturbance (periodic flooding) again.

Furthermore, strict forest reserves are set aside in order to allow natural processes and successional change to occur at their natural rate as well as to protect the biotic communities and ecological integrity.

11. Is your country preventing and mitigating losses of forest biodiversity due to fragmentation and conversion to other land uses?

AUSTRIA

yes, some measures undertaken

CHINA

yes, comprehensive measures undertaken

DENMARK

Further comments:
Danish forest legislation provides for a very restrictive forest reserve system. It is difficult to convert forest to other land-uses and it only rarely occurs. In such cases converted forest has to be compensated with establishment of new forest – often with an area far exceeding the forest converted and with the same or better quality in terms of location and suitability for forest management.

An afforestation programme is in place based on public afforestation efforts and provision of financial incentives for private afforestation. Afforestation activities are located in compliance with spatial and regional planning procedures, thus also taking into consideration the coherence and structure of the landscape.

Also incentives are available for establishment of shelter-belts, which could also have a function as ecological corridors in the landscape.

ESTONIA

b) potential measures identified

GERMANY

Conversion of forest area to other forms of land use is strictly regulated by the Federal Forest Act, which requires a permit from the competent authority prior to any clearance activities. The percentage of forested area in Germany has been stable or slightly increasing over the last decades.

Fragmentation, on the other hand, ranks as a major adverse external impact, according to the sector strategy for the conservation and sustainable use of biological diversity in German forests. Among the legal instruments relevant to the problem of slowing down fragmentation and land depletion are the Federal Act on Environmental Impact Assessment and the so-called intervention provision (*Eingriffsregelung*) of the Federal Nature Conservation Act.

An effort towards reducing the effects of fragmentation on German ecosystems was made with the inclusion in 2002 of a provision to create a nationwide biotope network into the revised Federal Nature Conservation Act.

In order to improve the knowledge base for measures to counteract the consequences of fragmentation, the Federal Office for Nature Conservation is preparing to support a research and development project into the effects of fragmentation of forest areas on the dispersal of wild plant and animal species and their genetic diversity. The project aims to analyse the current level of fragmentation of forests in Germany and to develop recommendations for the improvement of biotope networks and corridors and the closing of gaps in the system of genetic resource protection areas.

IRELAND

Forestry Acts and the Wildlife Act (1976, 2000) in addition to other legislation such as Planning legislation provides protection to existing woodlands, while agricultural schemes give some protection and provide enhancement measures for hedgerows. (Hedgerows are a valuable component of woodland connectivity in Ireland.) Some areas of broadleaf woodland/scrub continue to be cleared. The Native Woodland Scheme places particular importance on connectivity in the creation of new native woodlands.

POLAND

yes, some measures undertaken

SRILANKA

yes, some measures undertaken

SWEDEN

yes, comprehensive measures undertaken

SWITZERLAND

yes, some measures undertaken

12. Is your country restoring forest biological diversity in degraded secondary forests and in forests established on former forestlands and other landscapes?

AUSTRIA

Futher information on 11.c):
e.g., Environmental Impact Assessments for infrastructure projects, case studies with recommendations to conserve and restore connectivity (VÖLK et al., 2001; GRILLMAYER et al., 2002), identification of supraregional wildlife ecological corridors, guidelines for roadplanners with respect to wildlife passages.
Ad 12:
Subsidies for close to nature silviculture measures (inter alia, for reforestation and afforestation measures according to the potentially natural vegetation) are granted by the government.

CHINA

China has implemented the Natural Forest Protection Project and suspended logging natural forests. The logging of natural forests has been suspended in the upper and middle of Yellow River and Yangtze River, and the mountains are forbidden for logging for protection and management. The Chinese Government provided funds for logging-ban regions. The central finance will compensate the loss of local financial incomes due to the suspension of logging natural forests through transfer payment. Since

the initiation of the pilot project of Natural Forest Protection in 1998, 51.33 million ha of forests in the upper of Yangtze River, the upper and middle of Yellow River, Northeast China, and Inner Mongolia have been effectively conserved, and 5.988 million hectares of forest vegetation were restored. By the end of 2002, logging ban has been implemented in 13 provinces of middle Yangtze River and upper and middle of Yellow River, 93330 thousand hectare-forest resource been updated, silviculture area was 1470 thousand hectares.
China has implemented the Converting Arable Lands to Forestland or Grassland Project. The basic policy of the project is to restore forests and grasslands from cultivated lands, close hillsides to facilitate afforestation, provide grain instead of subsidies, and to allow individuals to sign contracts of afforestation. The central government provides gratuitous grain to farmers for re-afforestation. The standard for annual grain subsidy per hectare is 2250 kg in the upper of the Yangtze River, and 1500 kg in the middle and upper reaches of the Yellow River. In the meantime, certain cash subsidies will be provided to farmers and the standard is 300 Yuan RMB per hectare. The duration of subsidy depends on actual situation. The necessary seedling for the re-afforestation, re-vegetation and the artificial afforestation in the barren mountains suitable for afforestation shall be supplied by the forestry departments and the seedling institutions should provide gratuitous seedling to farmers. The subsidy of the seedling is 750 Yuan RMB per hectare according to the standards of establishing ecological forests, which shall be provided to the seedling production institutions by government. By the end of 2000, the total area of re-afforestation and re-vegetation was 1.363 million hectares in 193 counties of 17 provinces or autonomous regions.

DENMARK

Guidelines are available for the Danish afforestation program holding provisions for choice of species, silvicultural practice, location etc. These guidelines aim i.a. at new forests with a potential for rich biodiversity. Financial incentives are only provided subject to compliance with the guidelines.
Policies – including incentives – are in place to promote forest management regimes, which are beneficial for development and protection of biological diversity.

A new forest act is presently being drafted, which will contain provisions for protection of forest biodiversity and facilitate conversion to near-to-nature forest management principles. An action plan on near-to-nature forest management will be implemented in the state forests.

ESTONIA

The last statistical inventories demonstrate a rapid increase in the forest area, which covers more than a half of the land area of Estonia. The increase in the forest area has mainly been caused by the specification of the nature of plots and by the process of non-forested areas turning into forests. It has been estimated that another 300 000 ha of former agricultural lands have fallen out of active utilisation and are undergoing afforestation. This is mainly an uncontrolled process, often increasing the share of species of low economic and ecological value. There are some initial project-based measures under identification in order to restore the forest biological diversity in degraded secondary forests and in forests established on abandoned farmlands.

GERMANY

In their present state, the bulk of Germany's forests can be regarded as forests established on former forestlands. This is the result of a long history of human use. After centuries of intensive exploitation in the form of logging, charcoal production, grazing and extraction of firewood and litter, managed forestry was introduced about 250 years ago in order to restore the productive potential of the stands, many of which were severely degraded. This entailed afforestation with fast-growing conifer species (esp. pine and spruce), which were also suitable for the establishment of closed stands on degraded soils.

Today beech only accounts for a calculated percentage of 14 % of Germans forest tree species, oak for around 9 % of the area, and other deciduous trees for 11 %. Spruce (and other coniferous trees), pine and larch, however, account for 35 and 31% respectively of the forest stand area (including other coniferous tree species).
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 by the *Länder* of ecological management rules for the state forest authorities (cf. question 10), efforts to restore forest ecosystems to a more natural state have been intensified. In order to promote the introduction of ecological silviculture in private and local forests as well, the local forest authorities play an advisory role. Certain measures contributing to ecological silviculture are included among the activities which are eligible for financial support within the framework of the "Joint Task for the Improvement of Agricultural Structures and Coastal Protection".

IRELAND

The Native Woodland Scheme encourages and provides grant aid and a framework for such activity. The opportunity to restore such woodland presents itself most often following clearfelling of exotic conifers from such lands.

POLAND

According to the Act on Protection of Agricultural and Forest Lands of February 2nd, 1995, the protection of forest lands is based, “upon (…) limiting their assignation for non-forest or non-agricultural purposes, (…) prevention of processes of degradation or devastation of forest lands due to non-forest activity, (…) restoring of value of lands that were used for non-forest purposes and (…) improvement of their stability.”

The active forms of *in situ* protection are based on ecosystem re-naturalisation programmes and the restitution of endangered and threatened species. The restoration of forest biological diversity in forests established on former industrial lands is included in the framework of special programmes on management of former industrial lands, such as hard coal field in Upper Silesia, copper fields in the

Lower Silesia, hard coal mines in the Upper Silesia, brown coal fields near Belchatów, Turoszów, Konin, sulphur fields in Tarnobrzeg and others.
The preservation of the persistence of degraded secondary forests and forests established on former forest lands and other landscapes is maintained particularly through:

- the stand reconstruction in line with the principle of adjusting the species composition of stands to the habitat conditions;
- the implementation of the programme for small-scale retention of water in forests (limiting in deterioration in water relations, recognised as one of the factors determining the persistence of forests);
- combating of the threat of fire;

propagation of the forest protection concept in the society, i.e. through organisation of forest education centres, publication of informational and promotional materials, co-operation with schools and local authorities, etc.

SRI LANKA

Several project conducted by the Ministry of Environment did great deal of work on rehabilitation and management of degraded forests e.g Cultivation of native tree species in degraded natural forests,
Surveying, demarcation of boundaries and mapping of forests , Integrated Management Planning etc.

SWEDEN

Restoration of valuable features for biodiversity, in stands or landscapes where intensive land use has coursed species-poor forests, is a component in the forest policy and it is expressed in the green plan management.

SWITZERLAND

In Switzerland there is an overall policy goal and longstanding tradition of close-to-nature forest management, which contributes to the prevention of degraded second growth forests. Compared to other countries the problem of degraded second growth forests is rather negligible.

13. Is your country promoting forest management practices that further the conservation of endemic and threatened species?

AUSTRIA

Red Lists of threatened species exist for some species groups on national and subnational level in which the status, trend and conservation needs of those species are assessed. These Red Lists also contain endemic species.

Up to now, no overall protection strategy or programme for threatened or endemic species exist on a national level. However, there are certain single-species conservation programmes in place in some federal provinces.

Austrian Biodiversity Strategy for the Implementation of the CBD defines objectives and measures for threatened and endemic species.

The Austrian Forest Act (amended in 2002) puts stronger emphasis on the conservation of biological diversity.

On sites to be included in the EU-Network Natura 2000 appropriate measures (establishment of management plans) need to be taken also in order to conserve endemic and threatened species.

CHINA

(1) Endemic species for silviculture have higher priority.
(2) China has established 14 Wild Animals Refuge Stations and more than 400 wild plant germplasm bases to improve endangered wild fauna and flora.
(3) The State Council stipulated the List for Wildlife of State Priority Conservation in December 1988, and the List for Wild flora of State Priority Conservation in September 1999. The former list includes 398 species of wildlife of national grade one and two; the latter includes 246 species and 8 categories of wild flora.

DENMARK

The status of threatened species are being monitored and listed on a red list.

Conversion to near-to-nature forest management is expected to lead to richer biodiversity and provide for better protection of threatened species in forest.

A range of measures, including incentives for private forest owners and specific initiatives/guidelines in the state forests, are in place in order to protect forest areas of particular high value or vulnerability in terms of biodiversity or other nature values.

A Strategy for Natural Forests was drafted in 1992, and this has been followed-up by protection of a number of particularly valuable forest areas in both private and public forests.
In 1994 a “Strategy for Conservation of Genetic Resources of Species of Tress and Bushes in Denmark” was drafted, and subsequently implemented mainly through *in situ* conservation, but also to a certain extent through *ex situ* conservation.
Afforestation is primary taking place using native species supported through Government policies, including financial incentives, and recent statistics indicate that native species are gaining ground ahead of exotic species. This will also benefit threatened and endemic species.
In a few instances, very valuable forests have been protected through legal procedures enacted in the Danish Nature Protection Act.

ESTONIA

Followed by the EU accession process, Ministry of the Environment is preparing for the establishment of Natura 2000 network, which expands the current nature conservation practices and will promote forest management practices that further the conservation of endemic and threatened species as well.

GERMANY

Legal requirements calling for management practices to be supportive of species conservation exist with respect to certain types of protected areas, e.g. under the EU Habitats and Birds Directives, the Federal Nature Conservation Act (especially with regard to nature conservation areas and legally protected biotopes) and *Länder* legislation on protected forest areas (in those cases where management is not excluded). For further information of forest protected areas, see question 14 and Germany's first national report to the CBD.

Some *Länder* Forest Acts also include specific provisions that promote the integration of species conservation into forest management, *inter alia* by allowing for the designation of special purpose forest areas (sometimes called biotope protection forest) where management must meet certain requirements exceeding the basic legal standard. In the case of private forests, such requirements are to be compensated for.

In the concepts of ecological silviculture adopted by the *Länder* (cf. question 10), conservation measures such as the promotion of rare species of trees and shrubs, the mapping of valuable biotopes or the preservation of trees carrying the nests of predatory birds or breeding cavities of various animals are normally encouraged or required.

Financial incentives for species conservation measures in private forests are offered *inter alia* by the *Länder* in the form of contractual arrangements. However, most of the funds available for "conservation by contract" are still earmarked for the agricultural sector. The Federal Agency for Nature Conservation has recently funded a research and development project on "Contractual nature conservation in forests" aimed at investigating the possibilities for promoting the application of this instrument in the forestry sector.

The species protection programmes initiated by the nature conservation authorities of the *Länder* also include measures that are carried out in forests. They are normally implemented through cooperation between forest and nature conservation authorities, by contractual arrangements or in cooperation with nature conservation associations.

The large-scale nature conservation projects funded by the Federal Government provide another source of funding. Although the main focus of this programme has so far been the conservation of grassland biotopes, many of the project areas also include forests.

IRELAND

Forest operations must follow the Guidelines published by the Forest Service, including the Forest Biodiversity Guidelines, and as such must be managed on an ecosystem approach. Most measures are habitat oriented rather than species oriented. However, where a rare/threatened species is present, for example Hen Harrier, Freshwater Pearl Mussel, the site must be managed in a way to ensure the protection, survival and where possible enhancement of the species.

POLAND

The Forest Act of 1991, revised in 1997, contains many provisions ensuring sustainable forest management and maintenance of biological diversity of forest, namely protection of most valuable forest ecosystems and flora and fauna threatened components through a special forest management, taking into account the highest conservation regulations concerning the wildlife refuges and endangered species.

The significant role in the process of conservation of endemic and threatened species is played by the Programme of Forest Genetic Resources Conservation and Selective Breeding of Forest Trees in Poland for Years 1991 – 2010. The above-mentioned programme enables the following activities:

- elaboration and implementation of regional programmes of genetic resources conservation,
- extension of activities towards the protection of rare and endangered tree and shrub species, wild fruit trees, relict plant species and restitution of *Pinus cembra* L. in the Karpaty Mountains and *Abies alba* Mill. in the Western Sudety mountains,
- improvement of forest land division for the origins of seeds and seedlings.

The active forms of *in situ* protection are based on ecosystem re-naturalisation programmes and the restitution of endangered and threatened species.

Another form of the conservation of endemic and threatened species is the research on the *ex situ* protection of forest genetic resources (cryogenic methods, embryogenesis and tissue cultures). Such activities have been conducted the Forest Research Institute at Warsaw and the Forest Gene Bank at Kostrzyca. The above mentioned activities include also an establishment of the clone archive of endangered species.

SRI LANKA

The Forest Department has published a Gazette Notification to ban the cutting down of certain highly threatened tree species.
Forest Dept. has encouraged planting of threatened endemic species.

SWEDEN

In the field of area-protection is occurrence of threatened species a strong criteria in the selection of areas for protection.

We have not many endemic species in Sweden

SWITZERLAND

In Switzerland there are technical guidelines for forest management in areas where there are threatened or endangered species. In addition, special projects are drawn up for specific management of endangered or threatened species or areas (e.g. capercaillie projects)

Managed forest reserves are set aside as protected forest areas where clearly defined active management is practised (if required) in order to secure and maintain the habitat conditions necessary to protect rare plant and animal species and biotic communities, as well as to sustain traditional forest types (e.g. coppice, coppice with standrds, selva and open stands).

14. Is your country ensuring adequate and effective protected forest area networks?

AUSTRIA

major networks of protected areas established

CHINA

major networks of protected areas established

DENMARK

Further comments:
The Strategy for Natural Forests (1992) has been implemented. It secures areas of untouched forest and areas with traditional management regimes to support prioritised forest ecosystems.
The forestry part of the European Natura 2000-network is expected to be implemented in the near future.

ESTONIA

networks of protected areas taking shape

GERMANY

The German system of protected areas has developed over a long period of time and is made up of sites under various categories defined by national law, EU regulations and international protection instruments. With respect to forests, the most important protection categories laid down in the Federal Nature Conservation Act are those of national park, nature conservation area, landscape reserve, nature park, legally protected biotope and biosphere reserve. In addition to these categories, protected forest areas have also been established under forest legislation primarily in the state forests of the *Länder*. The designations and management goals of these areas, which can be summed up under the term "protected forest areas", vary between the *Länder*. Often, the areas in question are comparatively small and excluded from forest management completely.

Habitat protection under the European Union's nature conservation policy is based mainly on the Birds and Habitats Directives.

For further information on the various protection categories, please refer to Germany's first national report to the CBD.

The creation of protected areas has in the past often been guided by the availability of suitable sites. This practice has resulted in deficits concerning the representativeness and connectivity of the protected area network. Another problem is that many areas (especially in the categories "nature conservation area" and

"woodland protection area") are too small to ensure effective conservation of the ecosystems and species for which they were established.

In order to improve the effectiveness of area conservation in Germany, some new elements were introduced into the revised Federal Nature Conservation Act in 2002. One of them is the provision on creating a biotope network covering a minimum of 10 % of the national territory. Details concerning the implementation of this provision have yet to be worked out as it is integrated into the *Länder* Nature Conservation Acts. Concerning the eligibility of sites for area protection, new possibilities have been opened up in the revision of the Federal Nature Conservation Act by including sites which do not currently fulfil the requirements of a certain protection category (e.g. nature conservation area, national park), but which have the potential of developing into such a state.
Some efforts to close identified gaps in the system of protected areas are under way, for example with respect to the creation of large-scale conservation areas (such as national parks) for beech forest ecosystems, which are the most widespread ecosystem type of natural vegetation in Germany and for whose protection Germany has a special responsibility.

The completion of the Natura 2000 network is another major process which is expected to contribute significantly to the representativeness of Germany's network of protected areas.
Management plans and monitoring programmes are an important tool for ensuring the effective management of protected areas. Both instruments are already being applied or under development in the sites under the broader categories of protected areas, such as national parks and biosphere reserves. For Natura 2000 sites, management plans are recommended and monitoring measures required. The research and monitoring activities carried out in protected forest areas also contribute to the scientific basis for devising appropriate management regimes for protected forest areas.

IRELAND

some protected areas established but networks not in place

POLAND

some protected areas established but networks not in place

SRI LANKA

networks of protected areas taking shape

SWEDEN

major networks of protected areas established

SWITZERLAND

networks of protected areas taking shape

15. Is your country promoting sustainable use of forest resources to enhance the conservation of forest biological diversity?

AUSTRIA

Information on 14.e):
Austrian Natural Forest Reserve Programme; protected areas according to the EU-Directives establishing the Natura 2000 network also contain forest sites.

A study categorizing all Austrian forests within nature protection areas according to the Criteria of the MCPFE and examining the qualities and intensities of the protection regimes according to ordinance has been carried out and finished.
ad 15.:
Natural Forest Reserve Programme
Austrian Biodiversity Strategy
National Environmental Plan
Austrian Strategy for Sustainable Development
Restrictions regarding the management of forests in protected areas are possible according to ordinance.
In the Austrian Forest Act stipulates the sustainable management of forests as an overall objective. This also includes the long-term conservation of forest biological diversity.
With regard to the harvesting of non-timber forest resources, high levels of forest damage caused by ungulates are a problem in some regions. Therefore activities to promote sustainable hunting management are carried out.

Also voluntary, market based forest certification is contributing to the promotion of sustainable management of forests. In Austria 3,9 Mio ha of forests are certified according to the regional approach of PEFC; some sites are certified according to the FSC-system.

CHINA

In order to minimize the adverse impacts of human activities on forest biodiversity, restore and reconstruct destroyed or degraded forest ecosystems, China mainly took the following actions:

1. Allowable cutting amount system has been implemented in China, the system is benefit to control over-logging and maintain enough forest resources.
2. Since 1998, Natural Forest Protection Project, Converting Arable Land into Forestland Project, Three-North and Yangtze River Basin Shelterbelt Protection Project, Around Beijing Dissertation Controlling Project, National Wildlife and Nature Reserve Protection Project, and Key Area Forest Plantation Project have been launched to push forest biodiversity conservation and sustainable uses.

China has been transmitted from the plan economy system to market-oriented economy; therefore, China still has not enough experiences of forest biodiversity conservation and sustainable uses under market-oriented economy.

DENMARK

Financial incentives for action to promote biodiversity is in place, e.g. conversion of exotic conifer species to native broadleaf species.

Also the National Forest Programme from 2002 contains a number of measures to promote a richer biodiversity, e.g.
A) to set aside 10% of the national forest area having biodiversity as the most important management objective by 2040.
B) A set of guidelines for sustainable forestry has been set up in co-operation between authorities, NGO’s and forest owners.
C) All state owned forests are in a process of conversion to near-to-nature forest management, which put more emphasis on native species, natural regeneration, less drainage, which leads to natural water levels.

ESTONIA

Protection of habitats of threatened species is being paid more attention than they used to be. Estonian Forest Conservation Network and Forest Key Biotopes contribute as forest sector specific measures to the in-situ conservation of species and habitats. See also question 1.

GERMANY

Since nearly all of Germany's forest areas, including a large portion of the protected areas, are under some form of forestry management, promoting sustainable use is in fact one of the basic prerequisites in order to enhance the conservation of forest biodiversity. The principle of sustainability with regard to the use, protection (e.g. soil and climate protection, protection of the water balance) and recreational functions of forests is given high priority in the Federal Forest Act as well as in the Forest Acts of the *Länder*. According to § 11 of the Federal Forest Act, all forest management must be conducted in an orderly and sustainable manner.
In 1999, Germany established a process to develop a National Forest Programme. This programme is not defined as an operational political programme, but rather represents an ongoing dialogue aimed at achieving a social consensus on sustainable forest management. A wide range of institutions representing different stakeholders were invited to participate in the elaboration of the programme.

Other relevant policies and programmes, such as the sector strategy for the conservation and sustainable use of biological diversity in German forests, the forest management rules of the *Länder* and the provision of incentives for activities supporting sustainable use in private and local forests, have already been described above.

The implementation of voluntary independent forest certification schemes as a further way of encouraging sustainable use and conservation of forest biodiversity is welcomed by the German government. More than 60 % of the forest area in Germany has already been certified according to the certification schemes of the Pan-European Forest Certification and the Forest Stewardship Council (FSC).

However, because of the expenditure involved in verifying the chain of custody, certified finished products still account for a fairly low share of the marked, thus restricting the benefits derived by forestry enterprises participating in the programme.

The Federal government is striving towards a certification of federal forests according to FSC criteria.

The Federal Länder are following varying policies concerning the certification of state forests, with some promoting the PEFC scheme while others prefer to promote FSC certification.

By the end of the current legislation period (2006), Federal public procurement will have adapted the standard of FSC for tropical timber, provided that these guidelines are in line with WTO regulations and public procurement law.

A research and development project supported by the Federal Agency for Nature Conservation is currently analysing practical and legal aspects relevant to the envisaged restriction of federal public procurement of wood to certified sources.

IRELAND

Forest operations must follow the Guidelines published by the Forest Service, including the Forest Biodiversity Guidelines, and as such must be managed on an ecosystem approach. Most measures are habitat oriented rather than species oriented. However, where a rare/threatened species is present, for example Hen Harrier, Freshwater Pearl Mussel, the site must be managed in a way to ensure the protection, survival and where possible enhancement of the species.

POLAND

The programmes and policies for promoting the sustainable uses of forest resources to enhance the conservation of forest biodiversity are listed in point No 5.

The Act on Forests, approved in the year 1991 (before conferences in Rio de Janeiro and Helsinki) transformed the value of forests by adding social functions and a task of environmental creation achieved an equal position with production functions. The development of forestry in accordance with its regulations is the warranty of preservation of extensive biodiversity of forest areas. The new forest policy together with the amended forest law, which favours ecological model of forest management, assures better protection of forest biodiversity. Applied system regulating the size of allowable harvest does not hinder the use of mechanisms leading towards conservation of biological diversity. Full compliance with provisions of the Act on Forests is undoubtedly a great challenge for the forestry sector, since it assumes:

- preservation of forests and their beneficial influence on the environment,
- protection of forests, in particular natural forests
- protection of soils and land facing particular threats,
- production of wood and other forest products.

The preservation of persistence of forests, referred to the above, is particularly maintained through:

- diagnosing of conditions of forests,
- monitoring of ongoing changes and threats posed by biotic, non-biotic and anthropogenic factors,
- devising and implementing of far reaching forestry programmes (including forest management plans for programmes of seed production, stand reconstruction and conservation of nature),
- designation and protection of forests and mid-forests ecosystems of particular value due to their biodiversity,
- pursuit of stand reconstruction in line with the principle of adjusting the species composition of stands to the habitat conditions,
- implementation of the programme for small-scale retention of water in forests (limiting of deterioration in water relations, recognised as one of the factors determining the persistence of forests),
- combating of the threat of fire.

The above mentioned list of tasks includes also propagating the idea of forest protection in the society through the organisation of forest education centres, publication of promotional materials, co-operation with schools and local authorities, etc., which plays a significant role in the process of preservation of forests. A relatively big area covered by reserves, protective forests and landscape parks, where certain limitations occur referring to the utilisation of these areas can guarantee conservation of biological diversity in some forests.

SRI LANKA

Sri Lanka's Protected Areas(PA) account for 15 % of total land area . The Protected area management and wildlife conservation project (ongoing) will reform the sectors legal and institutional network in conjunction with capacity building, ecotourism development and the establishment of a sustainable financing mechanism for PA management. This project will be instrumental in establishing a PA system in Sri Lanka that protects wildlife biodiversity effectively and generates employment and income.

Formulation of National Ecotourism policy for sustainable use of Forest Biodiversity will be finalized in next year (2004).

SWEDEN

The Swedish model for maintenance of biodiversity and sustainable use of forest resources is based on general consideration in all forestry operations and area protection, formal and voluntary, on 5-10 percent of the total forest area.

SWITZERLAND

Close-to-nature forest management has a longstanding tradition in Switzerland. In the framework of the Swiss National Forest Programme the criteria of ecologically sound forest management have been reviewed with the intention to make them legally binding.

In addition to the ecologically sound forest management on the entire Swiss forest area, special species conservation programmes are drawn up

16. Is your country preventing losses caused by unsustainable harvesting of timber and non-timber forest resources?

AUSTRIA

The Austrian Forest Act stipulates sustainable forest management in general and includes several provisions to this end.

E.g.: Clear-cutting is restricted by the Austrian Forest Act. Generally forbidden are clear cuttings that would permanently reduce soil productivity, influence water regulation considerably in a negative way, enhance soil erosion, or impair the function of protective forests. Clear cuttings with a size of more than 0,5 hectars need permission by the forest authorities. Large clear-cuttings (more than 2 hectars) are only allowed in exceptional cases.

Concerning non-timber forest resources, a project has been carried out aiming at the development of a set of criteria and indicators for sustainable hunting and thus contributing to the prevention of losses caused by unsustainable hunting. On the Austrian CHM (www.biodiv.at) a living document has been installed in order to allow hunters to assess the sustainability of their hunting management practices by using the above mentioned criteria and indicators. Currently, these criteria and indicators are in the process of further development.

Also some provincal regulations set out restrictions concerning the use of non-timber forest resources (e.g. with regard to the picking of mushrooms).

CHINA

Under the precondition of forest and non-timber forest resource conservation and sustainable uses, wild fauna and flora collecting should follow the principle of that “resource consuming should be lower than that of natural growth.” Tenure should be clear, the relationship between conservation and uses should be coordinated, local people should gain benefits from resource use and conservation, the goal of resource increase and economic growth should be realized. The The collections of Manchurian ask (*Fraxinus mandshuria*), seeds of Korean Pine (*Pinus koraiensis*), Chinese yew (*Taxus Chinesis*) have been under control, which is benefit to reduce local poverty.

Allowable cutting amount system has been implemented in China, the system is benefit to control over-logging and maintain enough forest resources.

DENMARK

Timber The first Danish National Forest Act saw the light of day in 1805. Since then the details in the forest legislation has changed a number of times, most recent in 1996. However, the main principle has been unchanged i.e. that areas preserved as forest reserves must permanently be used for forestry purposes. Areas preserved as forest reserves cover 85 % of the total forest cover in Denmark (according to the latest forest resources assessment, year 2000).

For some special protected forest areas, clear cuttings are not allowed. Generally Danish forests are rather small and fragmented, and large clear cuttings are not common (>5 ha).
Non-timber: For private use the nature Protection Act allows the public to collect mushrooms, berries etc. in public forests. Collection for commercial use is only allowed for the forest owner. The Hunting and Game Management Act protects all wildlife from unsustainable harvesting.

ESTONIA

The measures to prevent losses caused by unsustainable harvesting of timber and non-timbering forest resources include management planning, policy planning and management supervision activites.

Forest felling and replanting are regulated according to the forest management plan. However, the annual felling rates are considered too high by NGOs and are objects of continuous disputes.

Furthermore, specific measures for neutralizing perverse incentives including initiating of unsustainable forest uses have been proposed in NBSAP (1999), draft Estonian Forest Development Plan etc.

Violations of forest protection regulations which is the most critical part of unsustainable uses of forest biodiversity, are monitored by the Estonian Environmental Inspection.

GERMANY

Concerning timber harvesting, reference has already been made to the legal provisions on sustainability contained in the Federal Forest Act and the Forest Acts of the *Länder*.

Among the most important non-timber forest resources utilized in Germany are game animals (e. g. boar, deer) and forest reproductive materials (*forstliches Vermehrungsgut*). The use of game is regulated under the Federal Hunting Law in combination with the Ordinance on Hunting Seasons. The populations of most species which are subject to hunting regulations are considered to be in a good conservation status. Conflicts between game management and sustainable forest management may arise when the populations of certain species (especially deer) are too high, thus causing problems for forest regeneration. According to the sector strategy for the conservation and sustainable use of biological diversity in German forests, hunting methods adapted to forests with increasingly diverse structures as well as methods to determine the minimum hunting quota for relevant species on the basis of ecological indicators are to be developed.

The production and circulation of forest reproductive materials intended for silvicultural use are regulated by the newly amended Law on Forest Propagation Materials (Forstvermehrungsgutgesetz). Enterprises which produce and circulate such materials must be officially registered.

The enforcement of laws governing the unsustainable harvesting of timber and non-timber forest resources in Germany is considered to be fairly good. Practices which are in violation of current regulations will be reported and brought to prosecution by the responsible forestry and conservation authorities.

IRELAND

There is very little harvesting of non-timber resources in Ireland – practically all harvesting is timber harvesting. The Forestry Acts control timber harvesting - a Felling Licence is required from the Forest Service before harvesting and there is usually a condition to replant. 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. They address issues relating to soil conservation, protection of water quality, archaeological sites, biodiversity and the visual landscape as well as the maintenance of forest health and productivity.

POLAND

Poland maintains 8.9 million ha forests that are 28.5% of the country total area (2002). Polish forestry generates 0.4% of gross value added. Public forests account for 83%, with the State Forests National Forest Holding owning almost 79% of the forest land.
There is a provision in the Act on forests (1991 with later amendments) stating, that forest management is to be performed in accordance with the forest management plan, considering targets, which include timber production (based on rational management), as well as the utilisation of non-wood raw material and products. The issues connected with the sustainable utilisation of forests are stated in the Regulation by the Minister of Environmental Protection, Nature Resources and Forestry on Detailed Rules of Elaborating Forest Management Plans, Simplified Forest Management Plans and Forest Inventories(1998). The Act on Forest and the Regulation obligate forest owners to the rational utilisation of forest, the way that can permanently ensure optimal compliance with all forest functions, by: timber harvesting in amounts not exceeding the forest productive abilities and harvesting of non–wood raw materials and products in the way securing possibilities of their biological regeneration and protection of the ground cover, as well. Timber harvested is marked, and if it is removed from forests not owned by the State Treasury, there must be a certificate of legal harvesting issued.

In addition, the issues connected to sustainable harvesting are regulated by the Regulation by the Minister of Environmental Protection, Natural Resources and Forestry on Detailed Rules of Timber Labelling, Patterns of the Designs of Labelling Devices and the Guidelines for Their Usage, as well as the Pattern of the Document Guaranteeing the Legality of Harvested Timber (1999).

According to the provisions of the Act on Forests (1991), the collection of forest fruits from herbaceous cover is allowed in the state owned forests, both for own needs and for a commercial goal, but the collection for commercial purposes requires a contract with a forest district. Chapter 5, Section 30 in the Act defines activities that are prohibited in forests, e.g.: destructing trees, shrubs and other plants, gathering or disturbing litter and damaging mushrooms.

One of undertaken measures to prevent unsustainable harvesting of timber is introducing of the Forest Stewardship Council (FSC) certificate.

In Poland, 6.7 million ha of forests are subject to certification, accounting for 76% of the total forest area. Sixteen out of seventeen Regional Directorates of State Forests have already been granted the Forest Stewardship Council (FSC) certificate. It is expected that by the end of 2003 all wood coming from the “State Forests” National Forest Holding will be certified. This will guarantee that materials come from legal sources and from well managed forests. Approximately 130 companies have also been granted the Chain of Custody (CoC) certificate. Producers of small wooden garden products and producers of sawmilling products are the majority (34% and 22%, respectively) among the CoC certified makers. At the same time, preliminary work has been undertaken to implement the Pan-European Forest Certification (PEFC) programme.

Illegal logging is still an important issue in Poland, in spite of the requirement to mark wood and to certify the legality of the sources of wood coming from forests that are not property of the Treasury. The

Forest Guard that co-operates with the police forces, Fishing Guard, Nature Protection, and other services are responsible for preventing theft and other illegal activities in forests. The Forest Guard are authorised to instigate investigations, track down perpetrators and monitor illegal felling in privately owned forests (i.e.: felling that violates the current simplified forest management plan). On the strength of the Forest Act, Forest Guard officers are also authorised to inspect wood shipments carried on public roads and wood processing plants. According to the provisions of the Act on Forests, Forest Guard officers are also authorised to inspect wood shipments carried on public roads and wood processing plants.

SRI LANKA

In 1989 the Government of Sri Lanka placed a moratorium to ban felling in all natural forests of the wet zone which are highly rich on species and particularly endemics.
Many wet zone forests have been designated as "conservation forests" where no commercial logging is allowed.
The Soil Conservation Act (1951) prohibited the clearing of forests above 5,000 feet from the mean sea level since these area is considered as a ecologically highly sensitive area.
Creation of Buffer zones with multiple use non-timber forest species.

SWEDEN

The main legislation on Swedish forestry is the Forestry Act (SFS 1979; Skogsstyrelsen 1994) and the Environmental Code (SFS 1998). The Forestry Act is a framework legislation. Binding rules are set by the NBF through regulations. The number of binding rules is relatively few, but those rules that do exist are fundamental, for example, the obligation on forest regeneration. There is a minimalistic approach to forest legislation and regulations. This means that the fulfilment of rules alone is not sufficient for achieving SFM and forest owners have engaged in additional voluntary commitments. Some rules are process-oriented. For example, when planned harvesting will affect forest stands that are valuable for reindeer husbandry, consultations with the Sami people involved must take place.

Since the 1970s the environmental requirements in the forest legislation have developed continuously. At present there are minimum rules on how environmental and cultural heritage considerations should be taken into account in forest operations. The introduction of new methods and techniques in forest management must be preceded by an Environmental Impact Analysis.

Another important tool is to establish nature reserves. But we also practice nature conservation agreements between the society and land owners. A third tool in the conservation work is legal habitat protection, suitable for small areas with very high biodiversity values.
We also regulate the game population, e.g. elk, based on the legislation.

SWITZERLAND

Swiss forest policy pursues the goal that removals of wood shall not exceed the increment (sustained yield principle). This goal was already mentioned in the Federal forest policy law of 1902, which was an era marked by the concern that a great demand for wood leads to excessive harvesting and thus to the decimation of forests.

With respect to non-wood forest products it is worth noting that according to the Swiss Civil Code the public has free access to all forests. Therefore, the public has free access to mushrooms, berries etc. Cantonal regulations are in place to control/limit the mushroom gathering. The Federal Law on Hunting and on the Protection of Mammals and Birds Living in the Wild contains regulations to ensure sustainable hunting.

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?

AUSTRIA

As far as indigenous communities are concerned, this objective is not relevant for Austria.
As far as participation of local communities in the forest management in general is concerned, the applicability of this objective is restricted due to the property structure of Austrian forests and due to private property rights which are clearly regulated by property-related federal laws.

However, there are several examples for participation of (local) citizens in the forest management, e.g. platforms for the management of protective forests, the Austrian Forest Dialogue which shall lead to a National Forest Programme, and the implementation process of Natura 2000 (EU nature conservation legislation).
Cultural diversity as an instrument to enhance forest biological diversity plays a role in the context of, inter alia, forests used for grazing and of other traditional forest use systems.

CHINA

China is a country with long history and multi-nationality. During thousands of years of production and living practices, China accumulated much traditional knowledge related to forests. These traditional life style and knowledge are especially important to the conservation and sustainable use of forest biodiversity. China pays high attention to the traditional knowledge that is beneficial to the conservation and sustainable uses of forest biodiversity, and actively takes measures to promote the incorporation of the knowledge into forest management at national and regional levels. The main measures are as follows:
China actively maintains and protects traditional knowledge. For example, Kunming Institute of Botany of Chinese Academy of Sciences, and Tropical Botanical Garden of Xishuangbanna of Yunnan Province investigated and researched the traditional life style and culture of minorities in Xishuangbanna area, especially, “Spirit Mountains” of Dan Nationality, “Spirit Forests” of Hani Nationality and botanical gardens in Buddhist temples. In 1997, Kunming Institute of Botany of Chinese Academy of Sciences and Forestry Department of Yunnan Province surveyed 8 minorities who live around Jinping watershed nature reserve, such as Miao, Yao, Tai Nationalities and so on. The experts have investigated and maintained diverse traditional botanical knowledge and experiences, which come from the activities such as traditional hunting, slash-and-burn cultivation, wild plants introduction and domestication and so on. The study is beneficial to the succession and development of the traditional knowledge on forest biodiversity conservation.

China has taken effective measures to encourage local community to maintain diverse traditional knowledge, which is left over by their ancestries and is beneficial to the conservation of forest biodiversity. Many Taoist and Buddhist resorts are fairly good sites to conserve forest biological resources. China regards religious belief, implements the policy of freedom to believe in religion, and guides positive factors of religion. This policy resulted in the fact that the Taoist and Buddhist resorts play positive roles in the conservation of forest biodiversity. Religions resorts such as Wudang Mountain in Hubei Province, Emei Mountain in Sichuang province, Taibai Mountain in Shaanxi province and Wutai Mountain in Shanxi province all become the sites where plants and animals are well protected.
China encourages minority communities to participate in the conservation of biodiversity. With the assistance of corresponding government departments and international organizations, participatory management approach has been implemented in some nature reserves where a number of minorities live together. This approach admits and encourages indigenous communities and women to participate in the management of nature reserves. For example, Yi, Pumi and Mosuo nationalities live around Lugu Lake nature reserve, Yunnan province. 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 indigenous communities, which promoted the participation of indigenous communities in forest biodiversity conservation, expanded income sources of the indigenous communities and raised their living standard. Through the sustainable uses of natural resources, the ecological environment and species resources that are critical to forest biodiversity have been conserved.

DENMARK

An advisory group of forest users is in place for each state forest district. They participate in the forest planning to ensure that users of the forest are heard.
A new forest law expected in 2004 will create further possibilities for different types of forest management systems.

ESTONIA

In Estonia the forest management and forest product certification is encouraged from variety of involved parties, including the government, NGOs, forest owners and local communities. The certification forms include FSC (Forest Stewardship Council) system, PEFC (Pan-European Forest Certification) and ISO 14001 standard.

GERMANY

not applicable

IRELAND

Very limited activities involving the use of traditional forest related knowledge. The National Parks and Wildlife and the Native Woodland Scheme encourage traditional management, e.g. coppicing, where appropriate but very little is undertaken.

POLAND

There is no issue concerning indigenous people in Poland. However, the land tenure and property rights are fully respected. Thus, according to a new forest law, each forest owner is obliged above all to manage forest strictly following principal rules, that are sustainability, common forest protection and enlargement of forest resources. The law accepts and respects the ownership rights of owners. Moreover, according to the aims and priorities of the National Policy on Forests, actions enhancing the functions of forests, especially public forests, will be directed towards social functions, i.e.: through integration of the aims of forestry with those of the sustainable development of society on the local, regional and national levels, as well as a closer co-operation with local communities in the development of local models for sustainable development that take into the account the state of forest resources and their functions. More often the regional societies become spokesmen of the protection of cultural values and look for the solutions for the regional protection.

SRI LANKA

The Protected area management and wildlife conservation project is responsible for community strengthening and partnership building around Protected areas and it encourage policy and legislative change to enable sustainable management of national PA system.

Promotion of eco-tourism - Recruitment of guides from the adjacent communities to protect the forest.

Education and awareness programs on conservation and sustainable use of forest biodiversity.

Participatory forest management involving the local communities.

SWEDEN

In the northern area with the Sami people and the reindeer herding, the forest management is undertaken consideration to the reindeer management through local participation in a multi-stakeholder approach. The indigenous Sami people have the traditional right to herd their animals over vast areas in northern Sweden, although they have no ownership rights. On the one hand forestry often negatively affects grazing conditions, while on the other hand the reindeer may damage young forest stands. The Sami people have also been involved in conflicts on hunting, fishing, agriculture and erosion of the sensitive high mountain vegetation, chiefly lichens. These conflicts have been ongoing for 50-100 years.

The right to hunt and use game belongs to the owner of the land. This right is often released to a team of hunters as a business deal. If the game populations are too large relative to the amount of fodder on the land then serious game damage to trees and vegetation may occur. Despite constant or even declining moose populations in the 1990s, the damage to young pine stands has increased, indicating a need for smaller populations. This is mainly due to the reduction of the annual harvest area and changes of harvesting methods. The hunters are normally unwilling to accept smaller moose populations. Locally such conflicts can be serious.

Of course, the traditional right of the Sami people and the right of the hunters could be seen as an impeding factor for SFM. But considering the broad scope of the SFM concept it is not: balancing the interests of the different users of the forests is part of the forest policy process as well as national policy processes on the Sami people, reindeer and hunting.

SWITZERLAND

not applicable

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?

AUSTRIA

Austrian Programme for the conservation of genetic resources

In situ-conservation: establishment and stewardship of the nature forest reserve programme as well as of protected areas under nature conservation legislation.

Ex situ-conervation: gene conservation forests, seed plantations, clone archives, scientific work by the

Federal Forest Research Center on forest genetics.
Federal Act on Seed Material for Forestry Purposes (Forstliches Vermehrungsgut-/Saatgut-Gesetz) (BGBl. Nr. 419/1996 und Nr. 512/1996) and corresponding ordinances.

A comprehensive study on the hemeroby of Austrian forest ecosystems (ecological state of forests with regard to potentially natural forest communities) has been performed and has been published in 1998 (GRABHERR et al., 1998).

In the frame of the Austrian Forest Inventory data on the potentially natural forest communities are collected.

A Red List of threatened forest biotope types has been published by the Austrian Federal Environment Agency (ESSL et al., 2002).

CHINA

China pays high attention to the exchange and sharing of forest information. China has established the forest resources monitoring systems at national and local levels, the forest ecological project benefit and assessment system, and progressively built up the monitoring network for forest resources and project benefits. China conducts the first-class investigation on forests at national level every 5 years to provide first-hand information on status and trend of national forest resources. As required, the corresponding provinces, autonomous regions and municipalities can arrange the second-class investigation to provide scientific basis for the compilation of forest management plans and forest resource management. At present, China has finished its fifth national investigation on forest resources.

China conducted monitoring on natural resources and biodiversity in parts of forest ecosystem nature reserves, founded the biodiversity information management system for forest ecosystem nature reserves, and the wildlife resources monitoring center.

According to the Law on the Dissemination of Agricultural Techniques and the Law on Scientific and Technological Achievement Transformation, China founded and perfected forest scientific and technological disseminating units at provincial, prefecture and county levels. These units concentrated their attention on forest biodiversity conservation and management, conducted technological services, technological training, consulting services and cooperative development, and contributed to forestry production and management departments.

Since 1997, China has developed the national information network on forest pest and disease control and quarantine, initially realized computer networking of forest pest and disease control information and quarantine operation at provincial levels across the country, scientifically and quickly delivering information concerning forest pest and disease macroscopic management, and founding basis for sound decision making.

DENMARK

Research takes place to identify genetic variability for important tree species. Most of this work is co-ordinated on EU-level or within EUFORGEN, European Forest Genetic Resources Programme. For more information see: http://www.ipgri.cgiar.org/networks/euforgen/euf_home.asp

The Strategy for the Conservation of Genetic Resources of Trees and Shrubs in Denmark was adopted in 1994. The Strategy is closely linked to the Strategy for Natural Forests and Other Forest Types of High Conservation Value in Denmark (adopted in 1992).

The strategy for genetic resources covers 75 different trees and shrubs, indigenous as well exotic species.

The strategy is based on a combination of *in situ* and *ex situ* conservation, with defined objectives for each species.

The *ex situ* conservation is under implementation as part of the breeding programmes. The *in situ* conservation will be implemented in the Danish State forests autumn/winter 2003/04.

Danida Forest Seed Centre (DFSC) has in close collaboration with international partners such as FAO, IPGRI, ICRAF, developed guidelines for *in situ* and *ex situ* conservation of forest genetic resources and provided assistance to a number of countries through tree seed programmes.

Assistance has also been provided for the development of regional status and action plans for the use and conservation of forest genetic resources.
Furthermore technical and financial support to specific programmes on *in situ* and *ex situ* conservation has been provided e.g. case studies on *in situ* conservation of *Acacia senegal* in Burkina Faso, *Tectona grandis* and *Pinus merkusii* in Thailand and *Baikea plurijuga* in Zambia as well as a number of *ex situ* conservation stands established within the framework of an FAO/UNEP project in the 1980s, with a view to develop methodologies for *ex situ* conservation, and to conserve and manage germplasm of a number of valuable provenances of tree species used in forest plantation establishment.
More information can be found on: http://www.dfsc.dk/index.htm

ESTONIA

According to the *Estonian Forestry Development Plan* (2003) The first among main shortcomings of the public forestry administration have been defined as insufficient gathering, processing and analysing of forestry-related information. This regards also communication among different organizations dealing with the sustainable management and use of biodiversity. It is tasked currently, that information on forests and forest management will be maintained in an integral information system (registry). Access to the registry will be guaranteed for the public authorities, for companies engaged in obtaining and buying up of timber to enable them to determine the origin of procured timber as well as for environmental organisations. The registry will be continuously updated to ensure the adequate meeting of potential new demands incl. those of foreseen in strategies for *in situ* and *ex situ* conservation and sustainable use of forest genetic diversity.

GERMANY

Concerning information systems:
A prototype database providing information on measures carried out by various institutions for the conservation of genetic resources of tree and shrub species in Germany has been developed by the Federal and State Working-Group "Forest Genetic Resources and Forest Reproductive Material" and the Centre for Biological Diversity (IBV) at the German Centre for Documentation and Information in Agriculture (ZADI). The database can be accessed at http://www.genres.de/fgrdeu/ .

Concerning strategies and their implementation:
A revised version of the forest gene conservation concept from 1987 was drawn up in 2000 by the Federal and State Working-Group "Forest Genetic Resources and Forest Reproductive Material". The "Concept for the Conservation and Sustainable Utilization of Forest Genetic Resources in the Federal Republic of Germany" may be viewed on the Internet at http://www.genres.de/fgrdeu/concept/concept_content.htm . One priority of the concept is the conservation of genetic diversity *in situ* where it can be integrated into forest management practices, especially in semi-natural forestry. Other elements include the registration and evaluation of forest genetic resources, specific conservation measures for endangered, valuable and rare tree and woody shrub species, research programmes, the development of a long-term genetic monitoring system and cooperation within the framework of international conservation programmes (e.g. IUFRO, IPGRI, EUFORGEN). The progress of these conservation tasks to be carried out by the institutions of the Federal Government and the Federal States and the results obtained in research will be reported upon over a four-year period.

Germany is actively participating in the work of the European Forest Genetic Resources Programme (EUFORGEN), which has been established under the process of the Ministerial Conferences on the Protection of Forests in Europe. EUFORGEN operates through networks which bring together scientists and managers to exchange information, discuss needs and develop conservation methods for priority tree species. Among the outputs produced by EUFORGEN Networks are long-term conservation strategies and guidelines for genetic conservation and use of various tree species.

IRELAND

Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Natural Heritage Areas (NHAs) incorporate the most important sites for genetic diversity. There is an information system on these sites which is held by the NPWS and each site has a management plan.

National Forest Inventory records information (both silvicultural and ecological) on the forests in Ireland. The Native Woodland Scheme is promoting and encouraging the planting of native species and is providing grant aid and training to achieve this aim. The Peoples' Millennium Forests project was a promotion and information system that reached every household in the country. It was also responsible for planting over 1.2 million native trees.

Forest Reproductive Material (FRM) legislation ensures the traceability and certification of the genetic integrity of FRM.
Research – Some Irish colleges are involved in ecological studies at home abroad. For example, Trinity College, Dublin is studying the genetics of Irish oak and the flora of Thailand in collaboration with the Royal Forest Department of Thailand and the Royal Botanic Gardens Kew. Biological records are kept by the NPWS and there are plans to expand such a centre to produce a widely accessibly database.

POLAND

The Programme of forest gene resources conservation and selective breeding of forest trees in Poland, in period 1991 – 2010 (1993) defines the following goals and tasks:

- conservation of forest genetic resources, which are to serve preservation of ecological continuity, especially forest sustainability, and to enable restitution of ecological process continuity and to enable restitution in forests on depreciated or destroyed areas,
- improvement of seed base to assure a stable supply of reproductive material satisfying quality requirements,
- forest tree selection to assure an increase of forest production and to improve its quality taking into consideration plasticity and resistance of trees to biotic threats.

According to the provisions of the above mentioned programme, the State Forests seed base and a system of 21 seed extraction plants, 44 regional seed stores, 7 seed testing stations and 4 seed quality monitoring stations fulfil the needs of both the State Forests and private owned forests, in terms of both the quality and native origin of material for planting. A particular place in the strategy for the protection of genetic resources is taken by forest gene banks (e.g. the Kostrzyca Gene Bank). Their task is an active protection of Polish genetic resources of currently threatened species of trees, shrubs and the forest floor plants. The Forest Gene Bank in Kostrzyca also produces seedlings of native origin trees. It also maintains an arboretum and container a nursery.

The research on *ex situ* protection of forest genetic resources (cryogenic methods, embryogenesis and tissue cultures) was undertaken by the Forestry Research Institute in Warsaw. The above mentioned methods have been developed and implemented by the Forest Gene Bank in Kostrzyca. On basis of stocktaking of phenotypes of the main forest tree species and genotypes of their seeds, Poland was divided into specific regions and the rules of trade of forest reproductive material were established. The Act on Forest Reproductive Material (2001), which implements the resolutions of the European Union Directive on trade of reproductive material into the Polish legislation, will have entered into the force after Poland will become the European Union Member. The other form of ex *situ* conservation of endangered species is an establishment of the clone archive.

The significant form of *in situ* protection is the utilisation of forest resources itself, which is based on sustainable forest management.

The matters connected with the in situ protection that have the character of ecosystems re-naturalisation was mentioned in the point no 12.of this Report.

SRI LANKA

A national strategy for species conservation is being prepared reviewing existing legal instruments to afford protection and recovery to threatened species of indigenous plants and animals and their populations. This will facilitate field-level conservation plans, continued research and monitoring; policy and legislative reform and coordination; and targeted education and awareness programmes.

SWEDEN

relevant information system and strategy under development

SWITZERLAND

Genetic inventories have been made for a certain number of species (e.g. fir, spruce, oak, mountain ash), and strategies have been drawn up accordingly. The implementation is in progress. For other species (e.g. *Populus nigra*) inventories are currently underway.
A specific strategy to preserve the genetic diversity of all tree species (approx. 40) is currently in the process of elaboration, and will be implemented starting in 2007.

19. Is your country promoting the fair and equitable sharing of benefits resulting from the utilization of forest genetic resources and associated traditional knowledge?

AUSTRIA

Austria has not yet dealt with this objective in detail. Respective activities of the European Community shall be undertaken in the near future on which national implementation will largely depend.

CHINA

Preserving China's biodiversity is extremely important to the maintenance of environmental systems that underpin human welfare. Not only is diversity thought to be critical for providing a natural resilience against shocks, but also it is argued that biodiversity provides a basis for evolutionary processes that allow species to change and adapt over time.

Under the precondition of forest and non-timber forest resource conservation and sustainable uses, wild fauna and flora collecting should follow the principle of that "resource consumption should be lower than that of natural growth." Tenure should be clear, the relationship between conservation and uses should be coordinated, local people should gain benefits from resource use and conservation, the goal of resource increase and economic growth should be realized. The collections of Manchurian ask (*Fraxinus mandshuria*), seeds of Korean Pine (*Pinus koraiensis*), Chinese yew (*Taxus Chinesis*) have been under control, which is benefit to reduce local poverty.

While all of society benefits from biodiversity protection, some groups benefit more directly through their commercial exploitation of genetic material. With China's vastly and rapidly expanding, medicinal herb industry is a critical commercial beneficiary. In total about 10,000 medicinal herbs are known, and 1,000 of them are commonly used. Many of them find their ways into mainstream drugs used alongside western medicines. About 80 percent of drugs used in China are based on indigenous plants. Not only is the domestic market for herbs huge, but exports are also growing rapidly. As a result overall production has expanded at an estimated 9 per cent per annum over the last 20 years. In 1987, total output reached 650 thousand tons. While medicinal herbs are frequently cultivated outside natural forests, they originate in

natural forests. For many, cultivation is not an option since plants perform poorly outside their natural environment. As a result, 80 percent of medicinal plants are sourced from the wild. In volume terms the share is 60 percents. In addition, natural forests represent a reservoir of undiscovered medicinal uses. By 1990, 10 medicinal plants had shown promise for their anticancer and anti-HIV compounds. The significant potential for new drugs is indicated by the high rate of recent discovery. Between 1979 and 1990, forty-two new Chinese medicinal preparations appeared on the market. The destruction of natural forests poses a threat to the medicinal herb industry. This threat comes from within and outside the sector. Where medicinal plants are already discovered, extraction has meant that for most species, stocks will be exhausted within 10-20 years.

China side has collected and stocked forest germplasm resource since 1990s, 10 germplasm reservoirs of cool temperate zone, temperate zone, subtropical zone and north tropical zone have been built, which include more than 2000 kinds of germplasms of populations, seed sources, families, superior trees and clones of main tree species, more than 20 grade germplasms have been supplied to research and production units. In the meantime, 35 thousand genetic materials have been reserved in national forest grade species bases.
Forest eco-tourism has been developed, which reduces local poverty, increases farmers' incomes and better reserves forest resources.

DENMARK

Denmark has no policies and programmes dealing specifically with forest genetic resources.

In 2000, the following provision was inserted in a statutory order under the Danish Patent Act:

"If an invention concerns or makes use of biological material of vegetable or animal origin, the patent application shall include information on the geographical origin of the material, if known. If the applicant does not know the geographical origin of the material, this shall be indicated in the application. Lack of information on the geographical origin of the material or on the ignorance hereon does not affect the assessment of the patent application or the validity of the rights resulting from the granted patent".

Breach of this provision could imply a violation of the obligation in the Danish Penal Code (para 163) to provide correct information to a public authority.
The aim of the provision is to trace compliance with the prior informed consent given by the country of origin of the genetic resources and the mutually agreed terms.

Denmark is in the process of preparing its policy with regard to "the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization".

ESTONIA

no

GERMANY

Germany has been promoting the issue of fair and equitable sharing of benefits in the course of international negotiations, and has strongly supported the development of the Bonn Guidelines. The Federal Office for Nature Conservation is currently preparing to support a research and development project contributing to the follow-up process in the implementation of the Bonn Guidelines. The aim of the project is to analyze options for further action with particular regard to the ultimate goal of maintaining biological diversity, while taking into account ongoing negotiations under the CBD.

At national level, Germany has nominated a focal point on Access and Benefit-Sharing issues based at the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (contact: Almuth.Ostermeyer@bmu.bund.de). A website facilitating access to information on access and benefit-sharing in Germany is currently under preparation and will be linked to the German clearing-house mechanism.

Within the framework of its research support initiative BioTEAM, the Federal Ministry of Education and Research is funding a joint interdisciplinary pilot project which is intended to elaborate a workable model solution for fair and equitable benefit-sharing based on the example of the use of plant genetic resources in cooperation with the indigenous communities of an Ecuadorian rainforest area.

The Deutsche Gesellschaft für Technische Zusammenarbeit GmbH (GTZ) has supported several projects contributing to the implementation of access and benefit-sharing regulations in Bolivia, the Philippines and South Africa.

IRELAND

The utilisation of genetic resources is limited in Ireland. A lot of the traditional knowledge has been lost but there are attempts to promote and encourage use of the remaining forest knowledge available.

The overall aim of the Strategic Plan for the Development of the Forestry Sector in Ireland is to “develop forestry to a scale and in a manner which maximises its contribution to national economic and social well being on a sustainable basis and which is compatible with the protection of the environment”. Biodiversity is a key part of Sustainable Forest Management and this is recognised in the Irish National Forest Standard.

Sectoral Action Plans are a pivotal part of the National Biodiversity Plan (2002). Notwithstanding the relatively low forest cover in Ireland forestry plays an important role in its biodiversity.

Forest practice is undergoing significant change from a culture of industrial plantation forestry towards other silvicultural systems, which involve an ecosystem approach. There is also greater emphasis on broadleaf afforestation and on increasing the availability of transplants of native genotypes of native species.

POLAND

The issue of traditional knowledge associated with the utilisation of forest genetic resources has not been debated so far. However, each forest owner is obliged to manage forests strictly following the principal rules of preservation presently existing biodiversity (at the genetic, species, ecosystem and landscape levels), the future enrichment, utilisation of adaptable abilities of forest nature in case of new threats.
The basic assumption underpinning the utilisation of forests as renewable sources of raw timber is harvesting of timber at the levels set in forest management plans that accord with cultivation and protective needs of stands and are in line with the principles regarding the permanence of forests and the enlargement of their resources.

In April 1997, the Polish Government adopted the National Policy on Forests – the document, which included the aims and trends of development of forestry in the XXI Century. According to this document the forest law has to respect the strategy of sustainable development and the importance of ecological, economic and social functions of forests. The methods of forest management must stay in harmony with ecological functions of forests and take into account their economic and social conditions. The main idea behind the new forest policy is that the subjects of the policy are forests under all forms of ownership. Other subjects of this policy are the aims and the principles of forest management and the links between forestry, society and other divisions of the national economy. Consequently, according to a new forest

law, each forest owner is obliged to manage forest strictly following principal rules, that are: forest sustainability, common protection and the enlargement of forest resources. The law accepts and respects the ownership. According to the National Policy on Forests, safeguarding of the permanence of forests along with their versatile role, will be achieved by:
- increasing the country forest resources,
- improving the state of forest resources and providing them with comprehensive protection,
- reorienting forest management away from the previous domination of a raw-material model towards a pro-ecological and economically balanced model of versatile forest management. Current activities of the Ministry of the Environment concentrate on supplementing the National Policy on Forest by Regional Operational Programmes.

SRI LANKA

The present status and gaps of national legal instruments related to access and benefit sharing has been reviewed. Based on the gaps analysis of existing legislation related to Biodiversity, a new Biodiversity Law on Access to Genetic Resources and the fair and equitable sharing of benefits was recommended. And now this is in draft stage. A new legal instrument for medicinal plant traditional knowledge has been developed . Formulation of National Policy on Traditional Knowledge is in progress.

SWEDEN

no

SWITZERLAND

no

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

AUSTRIA

A comprehensive study on the hemeroby of Austrian forest ecosystems (ecological state of forests with regard to potentially natural forest communities) has been performed and has been published in 1998 (GRABHERR et al., 1998). The study focuses more on the present state of conditions and explores specific causes of biodiversity losses to a lesser extent.

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 may contribute to increasing the understanding of some causes of biodiversity losses to a limited extent, although this is not the main task of the inventory.

A Red List of threatened forest biotope types has been published by the Austrian Federal Environment Agency (ESSL et al., 2002) which gives information on types and causes of threats.

A case study on the implementation of the Ecosystem Approach in Austrian forests investigates threats to forest biodiversity on the basis of a comprehensive review of literature, but without undertaking empirical scientific research. Local case studies are used to illustrate the statements.

CHINA

China pays high attention to disseminating the importance of forest ecosystem and biodiversity conservation for management personnel, the professional and the public, to increase their awareness. The main measures are as follows:

China pays high attention to forest publicity, and incorporates the conservation and development of forest resources into the main indicators to examine and assess officer's achievements in their official career at all levels, enhancing the willingness and activeness of officers at different levels to conserve and develop forest resources.

China launched a lot of colorful publicity and education activities on forest ecological environment through public media such as broadcast, film, television, newspaper and so on. According to incomplete statistics, China Central Television broadcasted over 660 items (sets) of news or programs on forestry, including 76 items of News Broadcasting, 7 series of Focus Talk, 173 items of News ’30, 108 items of China News, and 18 sets of Economy ’30.

In order to raise the understanding and management level on forest ecological environments, China holds forestry publicity meetings and training courses regularly.
China brought the supervisory function of public media into full play, resolutely publicized the major cases and crimes on destroying forestry resources through the media. For example, China conducted a series of publicity activities on "conserving the green, focusing on forests" in July 2003. These activities publicized a number of cases of destroying forest resources, converting forest lands to arable lands, illegally possessing forest lands, which gained the interests of the society and got good results.

China held different kinds of activities focusing on forest ecological environments, such as exhibitions, summer camps, festivals and commemoration days. These activities popularized the knowledge of forest ecological environments and increased public awareness of forest conservation.

DENMARK

Examples of analyses:
- Effect of drainage and planting on bogs and ponds in Danish forests
- Effect of change from broadleaves to conifers on vegetation and time needed for reestablishment
- Influence of afforestation on vegetation
- Importance of woody debris and large old trees in relation to fungal communities.
- Influence of pesticides and soil treatment on fauna (mainly insect) diversity.
- Effect of forest grazing on biodiversity

Lichens and mosses in relation to air pollution.

ESTONIA

Recently the several *ecosystem level inventories* have been carried out which partly indicate the status of forest management sustainability: Inventory of old-growth forest (by Estonian Fund for Nature, in 1993-1996); Inventory of wooded meadows (by Estonian Fund for Nature, in 1995-1996); Inventory of wetland types (by Ministry of the Environment, in 1997-1998); Inventory of valuable forest sites and establishment of forest conservation area network in Estonia (by Estonian Forest Centre, 1996-2000) and inventory of woodland key habitats (coordinated by Ministry of the Environment, 1999-2002.

Estonia has worked out its national criteria and indicators for sustainable forest management according to Pan-European Ministerial Forestry process. The Pan-European criteria and indicators will be further developed within the Pan-European process and the comparability between national statistics improved. At the moment there are on-going discussions about the possibility to produce data on regular intervals.

However, the understanding of various causes of forest biodiversity losses is still limited and additional focussed and comprehensive analysis needs to be done.

GERMANY

There is a large body of literature on the influence of external factors and management measures affecting the state of forest ecosystems and their biodiversity. Research on these subjects has been carried out *inter alia* at universities, Federal and *Länder* research institutions and private institutions. One of the main fields of interest over the past decades has been research into the so-called "new types of forest damage" and the influence of air-borne pollutants on forest ecosystems. Basic information on the functioning of forest ecosystems and their reaction to external factors has been gleaned during the course of large-scale ecosystem research projects such as the Solling project or the works of the Bayreuth Institute for Terrestrial Ecosystem Research (BITÖK).

However, our understanding of the causes of forest biodiversity losses is far from complete. A modular project was funded in 1996-1999 by the Federal Ministry of Food, Agriculture and Forestry (now: Federal Ministry of Consumer Protection, Food and Agriculture) to investigate "Key factors influencing forest biodiversity". Given that the information base with regard to environmental factors was already comparatively good, the project focussed *inter alia* on the influence of silvicultural measures and the consequences of high populations of game for the regeneration of tree species. Some of the findings from this project are included in the CBD Technical Series No. 3 ("Assessment, conservation and sustainable use of forest biodiversity", available at http://www.biodiv.org/doc/publications/cbd-ts-03.pdf). The full report has been published by the Federal Research Centre for Forestry and Forest Products.6

The follow-up project "On forest biological diversity in Germany" (2001-2003) builds on the results of the first stage while also making allowance for methodological constraints encountered during the course of studies (for example, with regard to the recording of rare plant species in investigations carried out on conventional-sized sample plots). A list of publications (mostly in German) which have emerged from this project is available at
http://www.rrz.uni-hamburg.de/OekoGenetik/biodiversitaet/ .

Regarding potential threats to endangered forest biotope types in their entirety, the red list of endangered types of biotope in the Federal Republic of Germany names among others the following factors: afforestation with non-autochthonous species, management intensification, immissions of air-borne nutrients and pollutants, and drainage of moist sites.

IRELAND

Deforestation before 1700 (which continued up to 1900) has been the greatest cause of forest biodiversity loss. Current risk factor in Irish forest biodiversity include (a) deer population increase without any natural predation, (b) spread of invasive alien weeds – e.g. *R. ponticum*, (c) grazing by farm animals and (d) neglect of woodland management.
Irish universities are involved in research on deforestation both at home and abroad. See questions 8 and 18.

POLAND

Polish forests are some of European most endangered stands. This state reflects constant and simultaneous impacts of the number of factors (abiotic, biotic and anthropogenic) that give rise to

6 Scholz, F., Degen, B. (eds.): "Wichtige Einflussfaktoren auf die Biodiversität in Wäldern", Mitt. Bundesforschungsanst. Forst-Holzwirtschaft Nr. 195, Hamburg, 1999.

unfavourable phenomena and changes in biodiversity and the health state of trees. Three main factors are responsible for the present condition of forests in Poland, especially those situated in the Polish mountains: air pollution, which causes an increased acidification of soils, anomalous weather conditions that result in floods, soil erosion and landslides and pest outbreaks, and the consequences of sylviculture procedures in the past In general, the main threat to the forests are anthropogenic changes in the environment, including:

- air pollution with gasses and particles,
- soil and water pollution,
- decreasing of the level of ground water,
- excessive fragmentation of forest areas,
- land use change related to mining,
- intensified penetration of forests by people, pollution and cluttering of forest areas,
- schematic forest management, oriented towards obtaining raw materials (including the substitution of mixed and broadleaved forest being natural climax communities of he Central European lowlands by high-production coniferous monocultures in the past),

fires (the most frequent causes of fires are: arson, lack of care, and/or an expansion of fire from non-forested areas).

SRI LANKA

Deforestation, encroachment and over exploitation, illegal mining could be the major causes of loss of forest biodiversity.

Apart from that, Introduction of invasive alien species(IAS) is becoming a threat to forest biodiversity, e.g. *Clidemia hirta* in Singharaja wet zone forest (however the threat caused by IAS is relatively law in natural forests). Environmental pollution can highly affect on the populations of sensitive species such as lichens , algae etc.

SWEDEN

We have started to apply strategies based on modern conservation biology and landscape ecology in the area protection. The conservation work in the future will be concentrated to rich areas with many valuable habitats and important circumstances/features for high biological diversity. The strategy will also be to focus on large nature reserves.

SWITZERLAND

thorough analysis being undertaken

21. Has your country integrated biodiversity conservation and sustainable use into forest and other sector policies and programmes?

AUSTRIA

The Austrian Forest Act stipulates sustainable forest management as an overall objective. This includes the long-term conservation of forest biological diversity.
National Forest Programme (in process): aims at furthering sectoral integration
Austrian Strategy for Sustainable Development: stipulates the sectoral integration
Austrian Biodiversity Strategy for the Implementation of the CBD
National Environmental Plan
Hunting Laws of the Federal Provinces

In other sectors than forestry, agriculture, hunting and nature conservation, cross-sectoral integration is not present to the same extent.
Practical implementation of cross-sectoral integration has not been fully able to keep up with progress on the conceptual, legislatory or strategy level.

CHINA

The Government of China has integrated biodiversity conservation and sustainable uses into forest and other sector policies and programs, the key policies and programs are as the followings:

The Central Committee of Communist Party and State Council stipulated “the Decision on Speeding up Forestry Development” in 2003, the decision states that wild fauna and flora and nature reserve constructions are important components of ecological management, and strengthens that the governments of all levels should pay higher priority on forest biodiversity conservation and sustainable uses.

Wild fauna and flora and nature reserve construction has been included the 10th five-year-plan of the economic and social development of Peoples’ Republic of China.
Wild fauna and flora and nature reserve construction is one of the most important sections of forest ecological projects in China.
State Council promulgated the Planning on National Ecological Environment Construction in 1998, clarified general objectives of national ecological environment construction. Forest biodiversity is the important component of the planning.

DENMARK

In 2002 a National Forest Program was drafted based on consultations and dialogue with all national stakeholders. It also aimed at a cross-sectoral approach. In particular legislation on agriculture, spatial planning and nature protection are highly relevant in a forest policy context, and new legislation on these issues are being drafted simultaneously with the new Forest Act, which is expected to enter into force in 2004. These processes are well co-ordinated and forest issues are duly taken into account, while also nature protection and biodiversity are highly important within the context of the National Forest Program and the forest legislation. The previous Forest Act entered into force on 1. January 1997.

Forestry is also integrated into national strategies, policies and action plans on spatial development, sustainable development and biological diversity. These issues – and forestry - are all under the same ministry.

In the Danish development assistance environment is a crosscutting issue including forest biological diversity when applicable.

ESTONIA

Estonia has attempted to integrate the national biodiversity conservation and sustainable use into forest and other sector policies and programmes mostly through national biodiversity strategy and action plan, *inter alia* applying the ecosystem approach and sustainable resource management. In forestry sector it has been performed in the Estonian Forest Policy (1997); in advanced and more specific manner in decennial Estonian Forestry Development Plan (2002).

GERMANY

Biodiversity conservation and sustainable use have been integrated into programmes and policies within the forestry sector, e.g. by means of the sector strategy for the conservation and sustainable use of biological diversity in German forests or the National Forest Programme (see above).

Integration into other sectors still needs to be improved. At present, 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 (*Eingriffsregelung*) of the Federal Nature Conservation Act and the presentation of conservation requirements in landscape planning as one of the sectoral contributions to overall spatial planning. The forthcoming introduction of Strategic Environmental Assessments for spatially relevant plans and programmes may help to promote the consideration of consequences for biodiversity at an earlier stage of planning, thus improving possibilities for an alignment of sectoral goals.

IRELAND

These issues are integrated into forestry through research, an ecosystem approach to forest planning and management, conservation measures through national forestry and biodiversity policies and integration of forestry with agriculture and sustainable, rural development. There is close cooperation with the national Parks and Wildlife Service. The Irish National Forest Standard defines criteria and indicators for SFM. The National Biodiversity Plan pays special attention to the need for the integration of the conservation and sustainable use of biological diversity into all relevant sectors.

POLAND

The Regulation No 65 by the General Director of the State Forests (2002) that has just launched the National Forest Programme (NFP) in Poland provides framework guidelines on preparation “Regional Operational Programmes of the Forestry Policy as a base for elaboration of the National Forest Programme”. This Regulation also defines the main actors of the process and points out the regional forest authorities responsible for providing the platform for work. It should be mentioned here that the present structure of the State Forest Administration is an advantage in promoting and facilitating the bottom-up approach in this regard. The bottom-up approach enables a broad participation of stakeholders and it aims at cross-sectoral harmonization of forest economy with other sectors, in particular, with agriculture, energy and transport industries, as well as environmental protection, national spatial policy and programming of a development throughout rural areas. The NFP will define a role of forest in the climate change, as well as principles of using forest resources. NFP will also establish links to the main Governmental programmes and strategies launched recently, such as: the National Programme for the Augmentation of Forest Cover (1995 revised in 2002), the National Programme for the Forest Gene Resources Protection and Selective Breeding of Forest Trees in Poland in the period 1991 – 2010 (1993), Regulation by the General Director of State Forests Establishing the Programme for Nature and Culture Values Protection in Forest Areas (1996).

The Ministry of the Environment co-operates with the Ministry of Agriculture and Rural Development, within the framework of the National Programme for Augmentation of the Forest Cover (1995) and the Act on Protection of Agricultural and Forest Lands (1995) and the Act on the Designation of Rural Lands to Afforestation (2001). There is also a possibility of afforestation of lands formerly owned by the army, i.e. military training grounds.

As it was mentioned in point No 10 of this Report, lands of marginal significance for agriculture can be a subject of afforestation following the goals determined in the National Programme for Augmentation of the Forest Cover (1995).

Next to the afforestation of post agricultural lands, another very important priority in the National Programme for the Augmentation of Forest Cover (1995) is introducing within private forests management practices based on ecological bases.
According to the provisions of the above-mentioned official documents, the marginal abandoned lands may be afforested only in line with the principle of adjusting the species composition of stands to the habitat.

SRI LANKA

Wildlife and forest sectors directly address biodiversity and sustainable use in their relevant policies. There is a growing tendency of recognizing this in other sectoral policies as well. But still there are no linkages in the sectoral action plans. Since the biodiversity is a cross cutting issue this affects the satisfactory implementation of action programs.

SWEDEN

It is integrated in the forest policy, decided by the Parliament, and it consists on two goals of equal importance – one environmental goal and one production goal.

A set of Forest sector Objectives are under progress in the sector council. (A multi-stakeholder approach). The process is under superintendence by the National Board of Forestry.

SWITZERLAND

The protection of threatened species and their habitats is mentioned as an overall policy goal in the Law on Preservation of Nature and the Landscape. The preservation of fauna species diversity and of the habitat of native and migratory animals, as well as the protection of endangered species are also explicit goals of the Hunting Law. Furthermore, the Federal Forest Law mentions as an overall policy goal to protect the forests as a natural environment (i.e. ecologically sound forest management).
The Swiss national forest programme which will be finalised by the end of 2003 contains several objectives and activities related to biodiversity conservation and sustainable use.

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?

AUSTRIA

A range of acts and ordinances exist, e.g. forest act

A comprehensive evaluation of the intergration of biodiversity-related objectives into forestry-related legislation, programmes and strategies has been carried out by the Ministery for Agriculture, Forestry, Environment and Water Management within the framework of an evaluation of the state of implementation of the Programme of Work for Forest Biological Diversity and the IPF/IFF proposals for action (PÜLZL, 2003).

Legislation for Environmental Impact Assessment exists on a national level, as well as for Spatial Impact Assessment in some federal provinces.

The European Union has issued a guideline for Strategic Environmental Impact Assessment. The jurisdictional implementation of this guideline into national legislation is in process and shall be finished until June 2004.

CHINA

China amended the Forest Law on April 29,1998, and promulgated the Implementation Regulation on Forest Law in 2000, the Regulation on Conservation of Natural Forests in 2002, the Administrative Regulation on Forest Lands, the List of Key National Protected Wild Plants (the first part), the Administrative Regulation on Import and Export of Wild Plants and Animals and so on. China initially built up an effective supervision and enforcement system for forestry.
In 2003, National Committee of Peoples' Congress has approved "the Law on Rural Land Contract", which states the land use rights of farmers and other stakeholders, and the law is helpful to forestland tenure stable and forest resource management.

DENMARK

The current Forest Act has provisions for multiple use forest management practices. A new Forest Act is being drafted, which will enter into force in 2004. This act will hold provisions for protection of forest nature and biodiversity, including implementation of the EU Natura2000 network. The previous Forest Act entered into force on 1. January 1997.

A "Windfall Act" entered into force in 2000. This act provides for reestablishment of forests after major windfall disasters. Also this act takes biodiversity in the reestablished forests duly into consideration.
Also new legislation on spatial planning, nature protection and agriculture are being drafted. Forests, nature and landscape will be duly considered in this legislation.

Voluntary national guidelines for sustainable forest management based on near-to-nature principles were drafted and agreed upon in 2001. These will now be made subject to dissemination activities, while they are being implemented in the state forests through an action plan for near-to-nature forest management.

ESTONIA

Estonia applies the following good governance practices of sustainable management and use of forest biological diversity: legislation, policies, development plans, action plans, monitoring programmes and forest survey. Currently some activities are underway to develop good governance practices, forest-related laws, tenure and planning systems to provide a sound basis for conservation and sustainable use of forest biodiversity.

GERMANY

Germany's legal system, combined with the opportunities for public participation in planning processes, provides a reliable framework which is generally conducive to efforts aimed at conservation and sustainable use of forest biodiversity. The system of land tenure, with approximately half of the forest area being owned by private persons while the other half is under the authority of the state, municipalities and other public-law corporations, is not a matter of dispute. According to § 1 of the Federal Forest Act, one of the aims of this Act is to strike the balance between the interests of the general public (which include the conservation and sustainable use of biodiversity) and the concerns of forest owners.
Other provisions of the Federal Forest Act, the *Laender* Forest Acts and the Federal Nature Conservation Act contributing to the conservation and sustainable use of forest biodiversity have already been

mentioned above, as well as the forest management rules laid down by the *Länder* (cf. questions 11, 13, 14, 15, 16 and 21).

The new Federal Nature Conservation Act also contains provisions governing good silvicultural practices.

IRELAND

Forestry Acts, Wildlife Acts, Forest Service Guidelines. Code of Best Forest Practice, National Irish Forest Standard, consultation procedures and inspections by Forest Service personnel and personnel from the National Parks and Wildlife Service as well as other stakeholders ensure that the requirements of the above legislation/regulations are implemented.. Forestry legislation is under review at present.

POLAND

In Poland, the National Forest Programme (NFP) plays a significant role in the process of preparation of the law that can provide a sound basis for conservation and the sustainable use of forest biodiversity. NFP has just been launched by issuing the Regulation No 65 by the General Director of the State Forests (2002). The Regulation defines the main actors of the process and points out the regional forest authorities responsible for providing the platform for the work. It also establishes links to the main governmental programmes and strategies launched recently, such as the National Programme for the Augmentation of Forest Cover (1995 revised in 2002), the National Programme for the Forest Gene Resources Protection and Selective Breeding of Forest Trees for the period 1991 – 2010 (1993) and the Programme for Nature and Culture Values Protection in Forest Areas (1996).
The objectives such as promoting pro-ecological, multifunctional and sustainable forestry and shaping the public environmental awareness together with creating the proper attitude toward forests and forestry are attained in Promotional Forests Complexes on educational trails and at ecological information points.

SRI LANKA

There has been a considerable re-orientation in policy adopted by the Forest Department over the years, with forest policy increasingly moving towards conserving the nations forest biodiversity, e.g. creation of conservation forests to conserve biodiversity rich wet zone forests and the trend to link the management of Conservation Forests with development activities in the buffer zone.

SWEDEN

some good governance practices and related laws developed and implemented (please provide details)

SWITZERLAND

1999 a recognized international expert team assessed the sustainability of Swiss Forest Policy. All forest and forest-related laws and regulations have been reviewed in this process, strengths and weaknesses were identified. The results were integrated among other into the formulation of the Swiss National Forest Programme (see also www.swissnfp.ch)

Furthermore, other laws and regulations were developed in order to promote good governance and a sound basis for conservation and sustainable use of forest biodiversity. For instance, the Swiss Landscape Concept stipulates binding objectives also for the forest area that are to be pursued by government departments in any of their activities which have implications for land use.

23. Is your country promoting forest law enforcement and addressing related trade?

AUSTRIA

yes, some measures in place to strengthen law enforcement and address related trade

CHINA

d) yes, some measures in place to strengthen law enforcement and address related trade

DENMARK

Further comments on promoting forest law enforcement and addressing related trade.
The first Danish National Forest Act saw the light of day in 1805. Since then the details in the forest legislation has changed a number of times, most recent in 1997. However, the main principle has been unchanged i.e. that areas preserved as forest reserves must permanently be used for forestry purposes. Areas preserved as forest reserves cover 85 % of the total forest cover in Denmark (according to the latest forest resources assessment, year 2000).

It is generally considered that illegal logging, illegal conversion of forestland to other lad uses or other violations to forest law are very rare in Denmark. Those few cases that do occur are followed up promptly and effectively, and if necessary pursued with proceedings.

Abroad, capacity building to enhance law administration is a key pillar in Danish strategies and programmes for development assistance and environmental co-operation, including strategies and programmes in the field of forestry and natural resource management.

On trade, Denmark in co-operation with the EU partners, has build up a well developed CITES administration and furthermore co-operates multilaterally and bilaterally on the fight against trade related to illegally harvested forest products. Denmark has furthermore, in June 2003, launched a new set of guidelines on public procurement of tropical wood - aiming at ensuring that public procurement is based on wood from legal and sustainable production.

ESTONIA

potential measures identified

GERMANY

At national level, forest law enforcement is not considered to pose a serious problem. Concerning international trade, Germany is working to ensure the provenance of imported wood from legal sources within the scope of CITES regulations and by supporting voluntary independent forest certification (cf. also question 15).

At European Union level, an action plan on "Forest Law Enforcement, Government and Trade" has recently been proposed by the Commission.

The Federal Ministry for Economic Cooperation and Development (BMZ) has included support to partner countries in efforts to combat illegal logging and trade in illegally harvested wood, and to install effective law enforcement mechanisms, amongst the desired future priorities for German development cooperation in the forest sector (cf. the BMZ Forest Sector Concept as of 2002). Several ongoing projects by the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) address issues relating to forest law enforcement, *inter alia* by assisting partner countries in their efforts to establish favourable framework conditions for law compliance and to adapt existing forest legislation.

IRELAND

yes, comprehensive measures in place to strengthen law enforcement and address related trade

POLAND

yes, some measures in place to strengthen law enforcement and address related trade

SRI LANKA

yes, some measures in place to strengthen law enforcement and address related trade

SWEDEN

potential measures identified

SWITZERLAND

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?

AUSTRIA

review under way

A well established legal and institutional framework for sustainable forest management seeks to balance economic, ecological and social aspects.

In particular in mountainous alpine regions the cost-revenue situation might be critical. Some reasons for this cost-revenue squeeze are: globalized timber markets and increased pressure from international competition requires cutting down of costs, forestry in high mountain regions which cover a large portion of Austrian territory is particularly cost-intensive, some competing foreign timber producing countries have lower ecological standards with less legislatory constraints to timber production (“eco-dumping”), constantly decreasing timber prizes, high degree of dependency from unpredictable timber markets which are highly dependent on consumer demands, etc.

Negative impacts of such developments on forest biological diversity cannot be excluded. In Austria various subsidy programmes are in place that try to counteract these tendencies by providing financial incentives for close-to-nature silvicultural measures.

Forest biological diversity and associated non-monetary benefits have not been integrated in national accounting systems yet.

CHINA

Forest biodiversity has positive externality to some extend, which causes economic failures and price distortions, the Government of China has taken measures to mitigate economic failures and distortions that lead to decisions that result in loss of forest biodiversity.

From the beginning of 1950s, China has started the inventory of forest biodiversity. Based on the investigations and studies in the past 50 years, a lot of the first-hand materials were accumulated, and a series of catalogues were published such as the Flora of China, the Fauna of China, the Cryptograms of China, the Vegetation of China, the China Plant Red Data Book, and the Chinese Endangered Animals Red Data Book. China has established a number of databases and information networks such as China forest distribution database and China forest resources database and so on.

Some animal and plant specimen halls with regional characteristics were established in such forest and wildlife nature reserves such as Wuyishan national nature reserve and Changbaishan national nature reserve.

The basic studies on taxonomy and inventory are very weak in China. The national action plan on taxonomy is lack, henceforth, focuses on the basic research and key problems of forest biodiversity, the studies on taxonomy and inventory should been strengthened.

China set up the forest ecological benefit compensation foundation and launched the ecological forest compensation system. The compensation foundation is composed of the central and local compensation foundations. The central ecological benefit compensation foundation is mainly used for the construction and management of public welfare forests, such as state owned forests, state owned ecological forest farms, nurseries and nature reserves and so on, compensation for the direct economic losses due to limiting the development of public welfare forests and protecting wild plants and animals, and subsidy for the construction and management of rural afforestation and public welfare forests, and the subsidy for forest pests and diseases control. The local ecological benefit compensation foundation is used for the construction and management of public welfare forests defined by local governments.

DENMARK

Perverse incentives, such as for instance subsidies for drainage, have been abandoned. Some tax-relief is in place for land with untouched forest, and state forests and some private forests practices green accounting.

The present economic crisis in the private forest sector may constitute a constraint for development toward forests, which contain more biodiversity and nature values.

ESTONIA

b) potential measures identified

The share of forestry and wood industry in Estonian GDP has been constantly increasing in the last decade. Wood industry formed 1/7 of the total volume of manufacturing industry in 2001. In the same year, the share of forest products exceeded 13% of the total value of the national export. The favourable influence of forestry to the national trade balance should be stressed as a very high share of its production inputs is of domestic origin.

However, there are only few measures mitigating the economic failures and distortions that lead to decisions that result in loss of forest biodiversity identified yet. As an example there are in place some schemes to provide market incentives for the use of sustainable practices and develop alternative income generation programmes of local communities.

GERMANY

Voluntary measures (i.e. measures above and beyond statutory provisions) by private forest owners to conserve and develop biological diversity are not always encouraged by adequate incentives at present. At

the same time, financial resources to compensate forest owners for envisaged restrictions to be imposed for the sake of conserving biodiversity (e.g. in connection with area protection) are not always available to the desirable degree. From an economic perspective, this may be ascribed to the fact that the social and conservational functions of forests in Germany do not have a market value.

In order to remedy this situation, efforts are being made to improve the system of incentives, e.g. by promoting the application of contractual arrangements for conservation in forestry (cf. question 13), by changes made to the set of measures eligible for support under the "Joint Task for the Improvement of Agricultural Structures and Coastal Protection" (cf. also question 12) and by encouraging voluntary independent forest certification (cf. question 15).

At international level, efforts to promote forest law enforcement and address related trade (cf. question 23) can be regarded as a way to reduce market distortions created by the competition presented by illegally harvested wood as compared to wood from sustainably managed sources.
The development of methods for the economic valuation of forest biodiversity and the goods and services provided by forests is an important basis for further deliberations on how to reduce economic failures and distortions resulting in loss of biodiversity. Within the framework of the interdisciplinary research project "On forest biological diversity in Germany" (cf. also question 20), investigations are being conducted vis-à-vis how the German public values measures of ecological silviculture versus the costs they imply for the forest owner. Studies on the valuation of several non-market goods and services have also been carried out in recent years. For some of these services, benefits have been researched at nation-wide level.
Germany is taking part in the work of the Task Force on Forest Accounting under the Statistical Office of the European Union (EUROSTAT), which includes investigations concerning the value of environmental and recreational functions of forests.

IRELAND

Majority of Irish forests are non-indigenous plantations and many of the larger semi-natural woods are protected either by State ownership or through designation, such as SAC, SPA and NHA. Measures are available through the NWS or agricultural schemes to protect these areas. Forest promotion and training as well as grant aid schemes, publicity and legislation also promote and protect biodiversity.

POLAND

The forest policy in Poland ensures compensation system for forest owners by providing non-market environmental benefits from public and private forests. This instrument consists of tax relief for forests 40 years old and above registered in the register of national heritage sites, and it subsidies afforestation, budgetary support for actions aimed at reduction of negative effects of pests and diseases.

SRI LANKA

review under way

SWEDEN

potential measures identified

SWITZERLAND

Some measures were taken in the framework of the Swiss National Forest Programme

25. Is your country increasing public support and understanding of the value of forest biodiversity and its goods and services at all levels?

AUSTRIA

yes, some programmes in place

CHINA

yes, some programmes in place

DENMARK

Further comments,

Several networks are established and/or under developing.:
The nature guides. More than 260 nature guides are organised in a network, where all activities are co-ordinated, education of nature guides are organised and developing of new methods takes place.
”Skoven i Skolen” (Forest in School) is a project to motivate and help teachers and pupils in primary and secondary school to integrate the forest in the teaching. ”Skoven i Skolen” is a part of the European network ”Leaning about Forests”.
naturnet.dk is a website to give inspiration nature activities, including trips to nature forests.

Skovens Dag (Forest Day). An ”open day” with activities and information about forest and forestry, including forest biodiversity is arranged every year in May in both private and public forests.

Outdoor facilities: Facilities to support the understanding of the value of forest biodiversity are still being established in the state forest districts and in many private forest districts. Examples are, simple campsites information boards, visitor centres and bird watching towers. There will be special focus on facilities for disabled persons.

In the National Forest Programme Social Objectives are defined and one of these is to ”strengthen the opportunities for experiencing nature in the forests”.

ESTONIA

yes, some programmes in place

GERMANY

According to § 6 (3) of the revised Federal Nature Conservation Act, the *Länder* are required to ensure that information on the importance of nature and landscape and the tasks of nature conservation is included in the work of educational and information-providing institutions at all levels. More specifically, 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.

IRELAND

yes, some programmes in place

POLAND

The main aims of nature-forest related education in the State Forests are: shaping of the public environmental awareness and the proper attitude toward forest and forestry, multilateral, rational co-operation with nature conservation organisations and environmental NGOs and promoting pro-ecological, multifunctional and sustainable forestry.

These objectives are attained in Promotional Forests Complexes on educational trails and at ecological education (information) points. The basic aim of Promotional Forest Complexes is to introduce into forestry practices the principles of directing its economy while totally accepting the status and the need to fulfil nature conservation requirements. The tasks of the Promotional Forest Complexes are first and foremost:

- a various recognition of state of forest biocenoses and of their biotopic condition, as well as trends to the ongoing changes;
- a permanent retention or re-establishment of valuable natural features of forests by rational forestry management pursued on ecological bases;
- popularisation of sustainable forestry;
- carrying-out of research work and experiments to determine opportunities and conditions for the principles of eco-development that would be disseminated throughout the State forests;
- training of the Forest Service and ecological education to the society as a whole.
-

The Promotional Forests Complexes are a place 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.

Additionally, the Forest Culture Centre in Goluchów and the Forest Education Centre in Rogów play an important role in ecological education conducted by State Forests.

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 institutions identified.

SWEDEN

yes, some programmes in place

SWITZERLAND

yes, some programmes in place

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?

AUSTRIA

a forest classification system adopted

CHINA

review completed

DENMARK

review under way

ESTONIA

a forest classification system adopted

GERMANY

No

IRELAND

a forest classification system adopted

POLAND

review under way

SRI LANKA

review under way

SWEDEN

a forest classification system adopted

SWITZERLAND

a forest classification system adopted

27. Has your country developed national forest ecosystem classification systems and maps that use agreed international standards and protocols?

AUSTRIA

yes, classification systems in place

x (forest ecosystem types according to Annex I of the faun-flora-habitat-direction of the EU)

CHINA

yes, classification systems in place

DENMARK

early stages of development

ESTONIA

yes, classification systems in place

GERMANY

No

IRELAND

advanced stages of development

POLAND

early stages of development

SRI LANKA

early stages of development

SWEDEN

yes, classification systems in place

SWITZERLAND

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?

AUSTRIA

Natural Forest Reserve Programme: Establishment and stewardship of Natural Forest Reserves: One main objective is to monitor and investigate natural ecosystem processes in order to develop close-to-nature silvicultural measures.
Implementation of Helsinki Resolution H2 of the MCPFE

CHINA

relevant surveys completed (please provide details

From the beginning of 1950s, China has started the inventory of forest biodiversity. Based on the investigations and studies in 50 years, a lot of the first-hand materials were accumulated, and a series of

catalogues were published. For example, the Flora of China, the Fauna of China, the Cryptograms of China, the Vegetation of China, the China Plant Red Data Book, the Chinese Endangered Animals Red Data Book. China has established a number of databases and information networks, such as China forest distribution database and China forest resources database and so on.

The basic studies on taxonomy and inventory are very weak in China. The national action plan on taxonomy is lack, henceforth, focuses on the basic research and key problems of forest biodiversity, the studies on taxonomy and inventory should been strengthened.

DENMARK

relevant surveys being planned

Surveys are planned or currently carried out in a number of forest areas :
Suserup Forest, Draved Forest, Strødam Forest, Høstemark Forest, Jægersborg Dyrehave (fungi).

ESTONIA

Recently the several forest ecosystem surveys in priority areas for conservation and sustainable use of forest biodiversity have been carried out: Inventory of old-growth forest types (by Estonian Fund for Nature, in 1993-1996); Inventory of wooded meadows (by Estonian Fund for Nature, in 1995-1996); Inventory of wetland types (by Ministry of the Environment, in 1997-1998); Inventory of valuable forest sites and establishment of forest conservation area network in Estonia (by Estonian Forest Centre, 1996-2000) and inventory of woodland key habitats (coordinated by Ministry of the Environment, 1999-2002).

GERMANY

What is meant by "specific forest ecosystem surveys"?
What is meant by “minimum forest classification system”?

IRELAND

Some research programmes are implemented, for example the BIOFOREST project, BIOSCAPE project and BIOASSESS project (see question 8), long term research has also been conducted around the country, for example in the Wicklow and Killarney National Parks, Brackloon Wood and the ICP plots.

POLAND

There is no national programme on forest research regarding the taxonomy. Nevertheless, the taxonomy research is conducted occasionally and randomly as a part of the realisations of other tasks. This research concerns fauna, mainly insects, and flora, mainly undergrowth species. In 1995, the State Forests conducted a special stocktaking of biological diversity limited to main groups of plants and animals. There is an urgent need for taxonomic identification of lower systematic groups.

The National Environmental Monitoring Network, with a financial support of the Chief Inspectorate for Environmental Protection and the Department of Forestry in the Ministry of the Environment implements new initiatives concerning the forest monitoring.

The State Forests land encompasses most of precious elements of biological diversity. These include the most attractive landscapes that are subject to higher form and manifestations of real nature conservation, as well as many species of flora and fauna. Foresters inventory is conducted on regular basis in the process devising programmes for nature conservation in a given Forest District. Particular attention is paid to natural and/or ecologically important fragments of forest ecosystems, i.e. acidophilus beech forests, rich beech forests, termpophilus oak forests, Galio-Carpinetum oak-hornbeam forests, riparian

mixed forests with *Quercus robur, Ulmus laevis* and *Fraxinus excelsior*, alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*, willow scrubs (like near-natural stands of native origin or forests in moist or dune habitats), as well as forms and objects of significance to the protection and preservation of forest biodiversity, including marshes, swamps, peat-lands and bodies of water. Within the State Forests, a particular attention is paid to the development of trees and stands. This is manifested, *inter alia*, by a precise reconnaissance of soil and habitat conditions. That requires appropriate connections between species and habitat conditions to be retained or re-established, as well as, the protection of near-natural ecosystems (i.e. riparian woodland and alder carr, bodies of water and watercourses with forests, marshes peat lands, heaths and sites or strongholds for rare plant or animal species. Equally important are issues, such as: enrichment of the species composition of forest biocenosis, a limitation of clear felling, a preference for the natural restocking and renewal of forests and an effort to diversify the forest margin.

SRI LANKA

The National Conservation Review (NCR) was done to define a national system of protected areas in which watersheds important for soil conservation and hydrology are protected and forest biodiversity is fully represented, while meeting the cultural, economic and social needs of the country.

This unique exercise constituted a systematic assessment of biodiversity in the natural forests of the country. The review covered all natural forests in the country of 200 ha or more, except those in sections of the north and east which were inaccessible due to political unrest. Between April 1991 and September 1996, 204 forests were subject to biodiversity assessment. Habitat mapping and total biodiversity survey for selected 8 protected areas will be started in next year.

SWEDEN

Woodland Key Habitats are areas where redlisted 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.

Today the Woodland key habitat concept is widely recognised as a practical instrument for conservation within the Swedish forest sector. The concept has also been included in different forest certification standards.

The National Board of Forestry was 1993 requested by the Government to start a survey of woodland key habitats. The result from the survey on the private owned small-scaled forest properties is available on Internet. www.svo.se/wkh

SWITZERLAND

relevant surveys completed (please provide details)

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?

AUSTRIA

Regional level: MCPFE criteria & indicators for SFM.
The 4th MCPFE (2003, Vienna) adopted an improved set of biodiversity related indicators.

A set of national criteria and indicators has not been adopted yet. However, various initiatives strive towards the development of a national set:
At the Institute for Silviculture of the University of Applied Life Sciences, Vienna (BOKU), a project dealing with the national implementation of the respective MCPFE resolutions is in process: Implementation and relevance of the Pan-European Guidelines for sustainable forest management – Evaluation on operational level considering different objectives and framework conditions.
Furthermore, the following projects have been carried out:
"Testing of Criteria and Indicators of Sustainable Forest Management in Austria within the international CIFOR Project" (Federal Environment Agency, 1996).
"Environmental Indicators for Austria. Regional and national Testing Parameters for Monitoring the State of the Environment on the Way to Sustainable Development.Conference Papers Vol. 26 (Federal Environment Agency, 1999).

With regard to non-timber forest resources, an assessment set of criteria and indicators for sustainable hunting has been developed within the framework of a participatory stakeholder process: "Criteria and Indicators for Sustainable Hunting", Monography of the Federal Environment Agency Vol. 158 (FORSTNER et al., 2001, www.biodiv.at/chm/jagd).

CHINA

For the sake of raising conservation and management level of forest biodiversity in China, China set up the planning and objectives for the conservation and development of forest biodiversity in next several years, they are:

State Council promulgated the Planning on National Ecological Environment Construction in 1998, clarified general objectives of national ecological environment construction. It is suggested that, before 2010, the harnessed area of soil and water erosion rises by 600 thousand km^2, the treatment area of desertification is up to 22 million hectares, the harnessed grasslands are up to 33 million hectares, the forest area increases by 39 million hectares with forest coverage over 19%.

China compiled the Planning on Forest Nature Reserve System Construction. The planning is aimed that, before 2005, the number of national forest nature reserves rises by 224, and their area rises by 15 million hectares. At the same time, combined with the project of national natural forest conservation, a number of forest nature reserves are founded or enlarged, and their area is up to 3 million hectares. A number of wild plant and animal nature reserves are founded in other areas with abundant biodiversity, and their area is no less than 5 million hectares.

Forest fires are brought under control basically. The damaged rate due to forest fire is less than 0.1%, and the occurrence rate of forest pests and diseases is less than 6%.

DENMARK

Denmark join the process of the Ministerial Conferences on the Protection of Forests in Europe (MCPFE) under which a comprehensive set of regional C&I has been developed. The first set was adopted and endorsed by the signatory states at the Lisbon conference in 1998. Later, in Vienna 2002 - 2003 an improved set of C&I was adopted and endorsed.

Those C&I have proven to be comprehensive and useful also at the national level, and they have thus formed the basis for the development of national guidelines for sustainable forest management at management unit level in Denmark. Those guidelines were included in the National Forest Programme of 2002.

In the framework of Nordic Council of Ministers there is at present an ongoing discussion on the need for further development of C&I's at subregional level in the Nordic region.

ESTONIA

Since 1988 the *European Network of Permanent Sample Plots for Monitoring of Forest Ecosystems* the level I network for monitoring of forests was established. In Estonia, the Centre of Forest Protection and Silviculture has been coordinating the survey, based on a 16*16 km network with 92 permanent sample plots covering the forest area of the whole country. Monitoring network has been established according to the Strasbourg Resolution 1 and Manual on the methods and criteria for harmonised sampling, assessment, monitoring and analysis of the effects of air pollution on forests. Altogether, more than 2100 sample trees have been used.

Estonia has worked out its national criteria and indicators for sustainable forest management according to Pan-European Ministerial Forestry process. The Pan-European criteria and indicators will be further developed within the Pan-European process and the comparability between national statistics improved. At the moment there are on-going discussions about the possibility to produce data on regular intervals.

GERMANY

Germany is taking part in several regional processes contributing to the development of criteria and indicators for sustainable forest management. Within the process of the Ministerial Conferences for the Protection of Forests in Europe, there are ongoing efforts to develop criteria and indicators to monitor the further development of sustainable forest management in Europe. In this context, maintenance and enhancement of forest biological diversity has been defined as one of the criteria for assessing sustainability. At an expert level meeting in October 2002, the MCPFE established a revised indicator set, with nine indicators specifically designed to assess forest biodiversity.

The Pan-European monitoring programme on the condition of forests initiated under the International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP) (cf. also question 8) is generating a large pool of data which may be used to gain information on various issues of international forest policy. A joint ICP Forests and European Commission Working Group on Biodiversity Assessment in Forests has been formed to investigate the possibility of including aspects of forest biodiversity assessment in the ongoing monitoring activities.

At national level, the parameters to be recorded in the second stage of the National Forest Inventory (2001-2002) were extended to include additional aspects relevant to biodiversity such as structural diversity, occurrence of dead wood, forest communities in need of special protection as well as the extent and quality of forest edge structures.

IRELAND

Criteria and indicators for Sustainable Forest Management have been adopted and improved through the Pan-European Ministerial Council for the Protection of Forest in Europe and incorporated into the Irish National Forest Standard and progressed through involvement with the Cost Action Programmes.

POLAND

Polish “criteria and indicators of forest biodiversity” are built according to the european agreements. the european criteria and indicators strongly accent the ecological-environmental point of view, focusing less attention on social-economical aspects. forming of the european (“helsinki”) criteria and indicators was initiated in 1993 and concentrated on extending of health of european forests. expert conference in 1994

agreed to 6 criteria and 27 quantity indicators. third ministerial conference in lisbon (1998) resolved “pan-european operational level guidelines for sustainable forest management”. this work takes under consideration all aspects o biodiversity protection arising from european “criteria and indicators”, as well as from “guidelines”.

Criterion iv “maintenances, conservation and appropriate enhancement of biological diversity in forest ecosystems has been created to assess and monitor the biological diversity of production forests. in this context, the criterion iv focused much more our attention than the previous criteria adopted by the helsinki conference. at the fourth ministerial conference in vienna (2003) the resolution no 4 ”conserving and enhancing forest biodiversity in europe” and the improved pan-european indicators for sustainable forest management were adopted. the above mentioned criterion no 4 goes in line with the expanded programme of work on forest biological diversity (adopted on the 6th conference of parties to the convention on biological diversity (2002). the following indicators are adopted by the 4th mcpfe: tree species composition, regeneration, introduced tree species, deadwood, genetic resources, landscape pattern, threatened forest species, protected forests.

SRI LANKA

relevant programme under development

SWEDEN

The question is indeed very complex and it is difficult to deliver an answer.
At national level:
We develop Forest Sector Objectives (it is a fusion of relevant Government policies, e.g. Forest Long term Targets, Forest Interim targets.) The National Board of Forestry plan to decide these new Forest Sector Objectives in January 2004.

SWITZERLAND

In Switzerland the pan-European criteria and indicators for sustainable forest management are well established and used (i.e. Swiss National Forest Inventory, Sustainability Assessment of Swiss Forest Policy, Sustainability monitoring at cantonal level, basic framework for Swiss National Forest Programme etc).

For some projects that list was completed to make it more relevant to the situation in Switzerland.

30. Has your country conducted key research programmes on the role of forest biodiversity and ecosystem functioning?

AUSTRIA

yes, some research programs conducted

CHINA

yes, comprehensive research programs conducted

DENMARK

research programs under development

ESTONIA

research programs under development

GERMANY

Aspects of the relationship between forest biodiversity and ecosystem functioning are touched upon inter alia in the modular project "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 aims to investigate the consequences of the transformation of managed forests according to ecological criteria.

IRELAND

yes, some research programs conducted

POLAND

research programs under development

SRI LANKA

yes, some research programs conducted

SWEDEN

yes, comprehensive research programs conducted

SWITZERLAND

yes, some 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?

AUSTRIA

No

CHINA

Chinese government preliminarily established China National Clearing House for Biodiversity Information. It aims at exchanging and synthesizing biodiversity information (including information related to China nature reserves, bio-safety, alien invasive species, the obtainment of genetic resources, the protection of traditional knowledge, and etc.) within China and between countries to contribute to the information sharing and technology communication in these fields.

Chinese departments concerned have also developed some databases and information networks of biodiversity. For instance, Chinese Academy of Science has developed Biodiversity Information System and its institutions have developed over 50 databases of biodiversity, mainly including species inventory database, rare endangered species database, specimen database, ecosystem database, taxonomical code

database and etc. Agricultural departments have also developed a database of crop germplasm resources and an external information exchange network of germplasm, being convenient for the searching of foreign countries. Departments of environmental protection, forestry, oceanology and etc. representatively developed environment database system, forestry database system and oceanology database system. 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. But this database and database system separated in departments concerned need conformity and standardization in order to exert adequately the function of the database system.

DENMARK

yes, some programmes in place (please provide details)

ESTONIA

Estonia has improved the technical capacity at the national level *inter alia* to monitor forest biodiversity, benefiting from the GEF funded project GF/2716-01-4354 "Assessment of Capacity building needs for Biodiversity and Participation in Clearing House Mechanism in Estonia", including sub-projects "The biodiversity indicators of sustainable forestry" and "Biodiversity conservation and sustainable use in Estonia: Mapping of the international obligations".

GERMANY

Capacity for the monitoring of forest biological diversity in Germany is considered to be 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 on varying geographical scales (e.g. at *Laender* level or in individual protected areas).

IRELAND

The national forest inventory includes biodiversity.
ICP forest plots monitors forest biodiversity and its changes through time.
An audit of the Irish National Forest Standard is being developed at present , which will include the biodiversity criterion. Research programmes are also in place.

POLAND

Numerous groups of scientific experts, representing not only the forestry but also other sectors, have been taking part in the process of improving of 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.

SRILANKA

capacity building programme under development

SWEDEN

yes, some programmes in place (please provide details)
Some examples:

The Swedish National Forest Inventory (the Swedish NFI) is carried out by the Department of Forest Resource Management and Geomatics, Swedish University of Agricultural Sciences in Umeå. The Swedish NFI has been undertaken since 1923.

The main purpose with the NFI is to describe the state of and changes in forest resources in Sweden - growth and cuttings for instance. However, there are numerous fields of application. For example, the NFI is a powerful resource for environmental monitoring. The NFI is a part of the Official Statistics of Sweden.

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. However, the most detailed information concerns forest land.

Since 1983 there has been a strengthened organization between the Swedish NFI and the Swedish Forest Soil Inventory. This new umbrella organization is called The Swedish National Inventory of Forests (RIS).

Polytax. A program to monitor environmental concern and regeneration quality during the phase of regeneration felling was started in 1999. In this inventory, called Polytax, sites that is to be subjects of regeneration felling is inventoried at three different occasions, before felling, one year after felling and at the time when the regeneration should be established. The biological, social and cultural value of the site is described before cutting. The inventory then follows up to which extent these values are taken into consideration during and if the value is preserved after the logging and regeneration operations. At the time when the regeneration should be established, a detailed description of regeneration success, regeneration method and regenerated tree species are done. The inventory is designed to give results at a national and regional scale, with god accuracy.

Woodland key habitat (WKH) survey. And specific monitoring of WKH. Woodland Key Habitats 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.

Today the Woodland key habitat concept is widely recognised as a practical instrument for conservation within the Swedish forest sector. The concept has also been included in different forest certification standards.

Until the end of 2001 around 46 000 key habitats on small private woodlots had been registered. Together they cover almost 1 410 square kilometers. The average area is 3,1 hectares with a median value of 1,4 hectares.

Today around 25 % of the key habitats are known. With continued surveys more of the key habitats will be found. The knowledge provided by the survey will be an important tool in our efforts to achieve environmentally adapted forestry for many years to come.

> We are unsure on how to answer at “benefiting from the opportunities offered through the Clearing House Mechanism of CBD”.
> The formulation of forest and environment policy goals has gradually developed towards more quantitative goals, or targets. As a consequence, follow-up planning has been more straightforward and more systematic. Indicators are now being introduced to make the follow-up process more transparent and easily comprehensible for politicians, the forest sector, the general public and others.

SWITZERLAND

Switzerland is one of the first countries in the world to monitor its biological diversity. 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. For further details see: www.biodiversitymonitoring.ch

Annex to question 1. Denmark

Annex to question 1. List of priority goals, objectives and activities

PROGRAMME ELEMENT, Goal, Objective and Activity	Priority High	Priority Low	Comment
PROGRAMME ELEMENT 1. CONSERVATION, SUSTAINABLE USE AND BENEFIT-SHARING			
GOAL 1			
To apply the ecosystem approach to the management of all types of forests			
Objective 1			
Develop practical methods, guidelines, indicators and strategies to apply the ecosystem approach adapted to regional differences to forests both inside and outside protected forest areas as well as both in managed and unmanaged forests.			
Activities			
1. Clarify the conceptual basis of the ecosystem approach in relation to sustainable forest management.		x	
2. Develop guidance for applying the ecosystem approach in forest ecosystems.		x	
3. Identify key structural and functional ecosystem elements to be used as indicators for decision-making and develop decision-support tools on a hierarchy of scales.	x		
4. Develop and implement guidance to help the selection of suitable forest management practices for specific forest ecosystems.	x		
5. Develop and implement appropriate mechanisms for the participation of all stakeholders in ecosystem-level planning and management.	x		
6. Develop an informal international network of forest areas for piloting and demonstrating the ecosystem approach and exchange related information through the clearing-house mechanism.		x	
7. Hold workshops to train and familiarize decision makers and managers with the foundations, principles and modalities of the ecosystem approach.		x	
8. Promote research and pilot projects to develop understanding of the functional linkages between forest biological diversity and agriculture with the aim to developing practices that could improve the relations between forest management and other land use methods. Promote assessment of functional linkages between mining, infrastructure and other development projects and forest biodiversity, and develop best practice, guidelines for such development projects to mitigate adverse impacts on forest biodiversity.		x	
9. Promote activities that minimize the negative impacts of forest fragmentation on forest biodiversity, including afforestation, forest restoration, secondary forest and plantation management, and agroforestry, watershed management and land use planning aimed at providing a combination of economic and environmental goods and services to stakeholders.	x		
GOAL 2			
To reduce the threats and mitigate the impacts of threatening processes on forest biological diversity			

Objective 1				
Prevent the introduction of invasive alien species that threaten ecosystems, and mitigate their negative impacts on forest biological diversity in accordance with international law.				
Activities				
1. Reinforce, develop and implement strategies at regional and national level to prevent and mitigate the impacts of invasive alien species that threaten ecosystems, including risk assessment, strengthening of quarantine regulation, and containment or eradication programmes taking into account the guiding principles on invasive alien species if adopted at the sixth meeting of the Conference of the Parties.		x		
2. Improve the knowledge of the impacts of invasive alien species on forest ecosystems and adjacent ecosystems.		x		
Objective 2				
Mitigate the impact of pollution such as acidification and eutrophication on forest biodiversity				
Activities				
1. Increase the understanding of the impact of pollution, e.g., acidification and eutrophication, and other pollutants (such as mercury and cyanide) on forest biodiversity; at genetic, species, ecosystem and landscape levels.	x			
2. Support monitoring programmes that help evaluate the impacts of air, soil and water pollution on forest ecosystems, and address the impacts of changing environmental conditions on forest ecosystems.	x			
3. Encourage the integration of forest biodiversity consideration into strategies and policies to reduce pollution.	x			
4. To promote the reduction of pollution levels that adversely affect forest biodiversity and encourage forest management techniques that reduce the impacts of changing environmental conditions on forest ecosystems.	x			
Objective 3				
Mitigate the negative impacts of climate change on forest biodiversity				
Activities				
Taking into account the work of the Ad Hoc Technical Expert Group on Climate Change and Biodiversity:				
1. Promote monitoring and research on the impacts of climate change on forest biological diversity and investigate the interface between forest components and the atmosphere;	x			
2. Develop coordinated response strategies and action plans at global, regional and national levels;		x		
3. Promote the maintenance and restoration of biodiversity in forests in order to enhance their capacity to resist to, and recover from and adapt to climate change;	x			
4. Promote forest biodiversity conservation and restoration in climate change mitigation and adaptation measures;	x			
5. Assess how the conservation and sustainable use of forest biological diversity can contribute to the international work relating to climate change.		x		

Objective 4			
To prevent and mitigate the adverse effects of forest fires and fire suppression			
Activities			
1. Identify policies, practices and measures aimed at addressing the causes and reducing impacts on forest biological diversity resulting from human-induced uncontrolled/unwanted fires, often associated with land clearing and other land use activities.		x	Fire belts in plantations.
2. Promote understanding of the role of human-induced fires on forest ecosystems and on species, and of the underlying causes.		x	
3. Develop and promote the use of fire management tools for maintaining and enhancing forest biological diversity, especially when there has been a shift in fire regimes.		x	Most relevant on heather sites adjacent to forests
4. To promote practices of fire prevention and control to mitigate the impacts of unwanted fires on forest biological diversity.	x		
5. Promote development of systems for risk assessment and early warning, monitoring and control, and enhance capacity for prevention and post-fire forest biodiversity restoration at the community, national and regional levels.		x	
6. To advise on fire-risk prediction systems, surveillance, public education and other methods to minimise human-induced uncontrolled/unwanted fires.		x	
7. Develop strategies to avoid the negative effects of sectoral programmes and policies which could induce uncontrolled forest fires.	x		Awareness raising targetting the public
8. Develop prevention plans against devastating fires and integrate them into national plans targeting the biological diversity of forests.	x		Fire belts.
9. Develop mechanisms, including early warning systems, for exchange of information related to the causes of forest biodiversity loss, including fires, pests and diseases, and invasive species.		x	
Objective 5			
To mitigate effects of the loss of natural disturbances necessary to maintain biodiversity in regions where these no longer occur.			
Activities			
1. Develop and promote management methods that restore or mimic natural disturbances such as fire, wind-throw and floods.	x		
Objective 6			
To prevent and mitigate losses due to fragmentation and conversion to other land uses			
Activities			
1. Encourage the creation of private reserves and private conservation methods where appropriate, respecting the rights and interests of indigenous and local communities.	x		
2. Establish ecological corridors on a national and regional basis.	x		

3. Promote cost-benefit analysis of development projects that might lead to the conversion of forest into other land uses incorporating the impacts on forest biological diversity.	x		
4. Implement policies, practices and measures aimed at addressing the causes and reducing impacts on forest biological diversity resulting from human-induced uncontrolled clearing or other uncontrolled land-use activities		x	No big problem in DK
GOAL 3			
To protect, recover and restore forest biological diversity			
Objective 1			
Restore forest biological diversity in degraded secondary forests and in forests established on former forestlands and other landscapes, including in plantations.			
Activities			
1. Promote the implementation of systems and practices for restoration in accordance with the ecosystem approach	x		
2. Promote restoration of forest biological diversity with the aim to restore ecosystem services.	x		
3. Create and improve where appropriate international, regional and national databases and case-studies on the status of degraded forests, deforested, restored and afforested lands.		x	
Objective 2			
Promote forest management practices that further the conservation of endemic and threatened species.			
Activities			
1. Determine status and conservation needs of endemic or threatened species and the impacts of current forest management practices on these species.	x		
2. Develop and implement conservation strategies for endemic and threatened species for global or regional application, and practical systems of adaptive management at national level.	x		
Objective 3			
Ensure adequate and effective protected forest area networks.			
Activities			
1. Assess the comprehensiveness, representativeness and adequacy of protected areas relative to forest types and identify gaps and weaknesses.	x		
2. Establish (in accordance with Article 8(j)) with the full participation and with respect for the rights of indigenous and local communities, and other relevant stakeholders, comprehensive, adequate, biologically and geographically representative and effective networks of protected areas.	x		
3. Establish, in a similar manner, restoration areas to complement the network of protected areas where needed.	x		
4. Revise in a similar manner and ensure the comprehensiveness, adequacy, representativeness and efficacy of existing protected area networks.	x		
5. Assess the efficacy of protected forest areas for the conservation of biological diversity.	x		

6. Ensure that relevant protected areas are managed to maintain and enhance their forest biodiversity components, services and values;	x			
GOAL 4				
To promote the sustainable use of forest biological diversity				
Objective 1				
Promote sustainable use of forest resources to enhance the conservation of forest biological diversity				
Activities				
1. Support activities of indigenous and local communities involving the use of traditional forest-related knowledge in biodiversity management.		x		
2. Develop, support and promote programmes and initiatives that address the sustainable use of timber and non-timber forest products.	x			
3. Support regional cooperation and work on sustainable use of timber and non-timber forest products and services, including through technology transfer and capacity-building within and between regions.	x			
4. Improve forest management and planning practices that incorporate socio-economic and cultural values to support and facilitate sustainable use.	x			
5. Promote cooperative work on the sustainable use of forest products and services and its relation to biodiversity conservation with the other members of the Collaborative Partnership on Forests.	x			
6. Encourage implementation of voluntary third-party credible forest certification schemes that take into consideration relevant forest biodiversity criteria and that would be audited, taking into consideration indigenous and local community rights and interests.	x			
7. Set up demonstration sites that would illustrate forest conservation and on-ground delivery of goods and services through sustainable forest management, which are also representative of various types of forest, themes and regional needs, through case-studies.	x			
8. Facilitate and support a responsible private sector committed to sustainable harvesting practices and compliance with domestic laws through effective development and enforcement of laws on sustainable harvesting of timber and non-timber resources.	x			
Objective 2				
Prevent losses caused by unsustainable harvesting of timber and non-timber forest resources.				
Activities				
1. Establish a liaison group with an associated workshop to facilitate development of a joint work plan with relevant members of the Collaborative Partnership on Forests to bring harvesting of non-timber forest products (NTFP)s, with a particular focus on bush meat, to sustainable levels. This group should have a proportionate regional representation, giving special consideration to subregions where bush meat is a major issue and representation of relevant organizations such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora. The mandate of this group is to:		x		

(i) Consult in a participatory manner with key stakeholders to identify and prioritize major issues pertaining the unsustainable harvesting of non-timber forest products, particularly of bushmeat and related products; (ii) Provide advice on the development of policies, enabling legislation and strategies that promote sustainable use of, and trade in, non-timber forest products, particularly bushmeat and related products; (iii) Provide advice on appropriate alternative sustainable livelihood technologies and practices for the affected communities; (iv) Provide advice on appropriate monitoring tools.			
2. Promote projects and activities that encourage the use and supply of alternative sources of energy to prevent forest degradation due to the use of firewood by local communities.		x	Firewood is abundant in DK forests
3. Develop any necessary legislation for the sustainable management and harvesting of non-timber forest resources.	x		
4. Solicit input from Parties, other countries and relevant organizations on ways and means to encourage and assist importing countries to prevent the entry of unsustainably harvested forest resources, which are not covered by the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and consider this information as a basis for further steps on this issue.	x		
Objective 3 Enable indigenous and local communities to develop and implement adaptive community-management systems to conserve and sustainably use forest biological diversity.			
Activities Taking into account the outcome of the Ad Hoc Open-ended Inter-Sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity:			
1. Strengthen the capacity of, and provide incentives for, indigenous and local communities to generate opportunities for sustainable use of forest biodiversity and for access to markets;		x	Key priority in Danish overseas development programmes, but not relevant in DK forests
2. Strengthen the capacity of indigenous and local communities to resolve land rights and land use disputes in order to sustainably manage forest biodiversity;		x	
3. Encourage the conservation and sustainable use of forest biological diversity by indigenous and local communities through their development of adaptive management practices, using as appropriate traditional forest-related knowledge;		x	
4. Provide incentives for the maintenance of cultural diversity as an instrument to enhance forest biological diversity;		x	
5. Develop and implement education and awareness programmes on traditional uses of forest biological diversity in accordance with Article 8(j);		x	
6. Create an environment that fosters respect, and stimulates, preserves and maintains traditional knowledge related to forest biological diversity, innovations and practices of indigenous and local communities.		x	
Objective 4			

Develop effective and equitable information systems and strategies and promote implementation of those strategies for in situ and ex situ conservation and sustainable use of forest genetic diversity, and support countries in their implementation and monitoring.			
Activities			
1. Develop, harmonize and assess the diversity of forest genetic resources, taking into consideration the identification of key functional/keystone species populations, model species and genetic variability at the deoxyribonucleic acid (DNA) level.		x	
2. Select, at a national level, the most threatened forest ecosystems based on the genetic diversity of their priority species and populations and develop an appropriate action plan in order to protect the genetic resources of the most threatened forest ecosystems.	x		
3. Improve understanding of patterns of genetic diversity and its conservation in situ, in relation to forest management, landscape-scale forest change and climate variations.	x		
4. Provide guidance for countries to assess the state of their forest genetic resources, and to develop and evaluate strategies for their conservation, both in situ and ex situ.	x		
5. Develop national legislative, administrative policy measures on access and benefit-sharing on forest genetic resources, taking into account the provisions under Articles 8(j), 10(c), 15, 16 and 19 of the Convention on Biological Diversity and in conformity with future decisions of the Conference of the Parties, as appropriate.	x		
6. Monitor developments in new biotechnologies and ensure their applications are compatible with the objectives of the Convention on Biological Diversity with respect to forest biological diversity, and develop and enforce regulations for controlling the use of genetically modified organisms (GMOs) when appropriate.	x		Following EU directives
7. Develop a holistic framework for the conservation and management of forest genetic resources at national, subregional and global levels.	x		
8. Implement activities to ensure adequate and representative in situ conservation of the genetic diversity of endangered, overexploited and narrow endemic forest species and complement the in situ conservation with adequate ex situ conservation of the genetic diversity of endangered, overexploited and narrow endemic species and species of economic potential.	x		
GOAL 5			
Access and benefit-sharing of forest genetic resources			
Objective 1			
Promote the fair and equitable sharing of benefits resulting from the utilization of forest genetic resources and associated traditional knowledge			
Activities			
Based on the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization, as adopted by the Conference of the Parties at its sixth meeting(48):			Benefit sharing with local and indigenous communities is not relevant in Denmark

1. Establish mechanisms to facilitate the sharing of benefits at local, national, regional and global levels.		x	
2. Strengthen capacity of indigenous and local communities to negotiate benefit-sharing arrangements.		x	
3. Promote dissemination of information about benefit-sharing experiences through the clearing-house mechanism and appropriate means at the local level.		x	
PROGRAMME ELEMENT 2: INSTITUTIONAL AND SOCIO-ECONOMIC ENABLING ENVIRONMENT			
GOAL 1			
Enhance the institutional enabling environment.			
Objective 1			
Improve the understanding of the various causes of forest biological diversity losses			
Activities			
1. Each Party to carry out, in a transparent and participatory way, thorough analysis of local, regional, national and global direct and underlying causes of losses of forest biological diversity. A distinction should be made between broad socio-economic causes such as demographic growth and more specific causes such as institutional weaknesses and market or policy failures.	x		
2. Each Party on the basis of the above analysis to implement their recommendations.	x		
3. Parties to report through the clearing-house mechanism of the Secretariat on successful experiences involving control and mitigation of the underlying causes of deforestation, which would make it possible to understand lessons learned.			Has not yet decided how to proceed.
Objective 2			
Parties, Governments and organizations to integrate biological diversity conservation and sustainable use into forest and other sector policies and programmes.			
Activities:			
1. Parties to formulate appropriate policies and adopt sets of priority targets for forest biological diversity to be integrated into national forest programmes, national sustainable development strategies, poverty reduction strategy papers, related non-forest programmes and national biological diversity strategies and action plans. Ensure that there is coherence and direct interaction between the different programmes.	x		
2. Seek ways of streamlining reporting between the different forest-related processes, in order to improve the understanding of forest quality change and improve consistency in reporting on sustainable forest management.	x		
3. Develop a set of indicators that might be used in assessing progress in implementing the national biodiversity strategies and action plans and relevant work programmes;	x		
4. Donor bodies and other financial institutions to incorporate forest biological diversity and sustainable use principles and targets into forest and related programmes, including watershed management, land-use planning, energy, transport, infrastructure development, education and agriculture, mineral exploitation, and tourism.	x		
5. Seek to harmonize policies at regional and subregional levels in the area of forest biological diversity.	x		

6. Develop strategies for effective enforcement of sustainable forest management and protected area regulations, including adequate resourcing and involvement of indigenous and local communities.	x			
7. Parties and donor bodies to develop and implement, strategies, in particular national financing strategies in the framework of national biodiversity strategies and action plans and national forest programmes, and provide adequate financial, human and technical resources.	x			
8. Encourage the Executive Secretary to coordinate and seek synergies between Convention on Biological Diversity, the United Nations Forum on Forests and the members of the Collaborative Partnership on Forests, including establishment of memoranda of understanding, as appropriate, between the Convention on Biological Diversity and the other members of the Collaborative Partnership on Forests, and recommend such an memorandum of understanding with the International Tropical Timber Organization and the United Nations Framework Convention on Climate Change as a first step.	x			
9. Increase emphasis on capacity-building, research and training, public education and awareness, access to and transfer of information and technology, technical and scientific cooperation, with focus on capacities required to address forest biodiversity-related issues.	x			
Objective 3 Parties and Governments to develop good governance practices, review and revise and implement forest and forest-related laws, tenure and planning systems, to provide a sound basis for conservation and sustainable use of forest biological diversity.				
Activities				
1. Develop appropriate measures and regulations to secure a permanent forest area sufficient to allow for the conservation and sustainable use of forest biological diversity.	x			
2. Seek to resolve land tenure and resource rights and responsibility, in consultation with all relevant stakeholders including for indigenous and local communities, in order to promote the conservation and sustainable use of forest biodiversity.	x			
3. Encourage Parties and countries to ensure that forest and forest-related laws adequately and equitably incorporate the provisions of the Convention on Biological Diversity and the decisions of the Conference of the Parties.	x			
4. Implement effective measures to protect traditional knowledge and values in forest laws and planning tools.	x			
5. Develop legislation, administrative or policy measures on access and benefit-sharing for forest genetic resources, taking into account the draft Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization.		x		
6. Invite Parties, Governments and other relevant organizations to submit case-studies and research on the role of performance bonds in forest concessions, in the conservation and sustainable use of forest biological diversity; and request the Secretariat to make these available.		x		
7. Parties, Governments and relevant stakeholders to develop mechanisms and processes to work toward good governance to promote conservation and sustainable use of forest biological diversity.	x			
8. Develop and apply environmental and socio-economic impact assessment methods as appropriate prior to land-conversion decisions.	x			
Objective 4 Promote forest law enforcement and address related trade				

Activities				
1. Invite Parties, Governments and relevant organizations to provide information on a voluntary basis to enable a better comprehension of the effects of unsustainable harvesting, exploitation of other forest resources and associated trade, as well as on the underlying causes, on forest biological diversity. On the basis of dissemination of this information countries may decide to take relevant measures such as enforcement actions.	x			
2. Evaluate and reform, as required, legislation to include clear definition of illegal activities and to establish effective deterrents.	x			
3. Develop methods and build capacity for effective law enforcement.	x			
4. Develop codes of conduct for sustainable forest practices in logging companies and the wood-processing sector to improve biodiversity conservation.	x			
5. Encourage and support the development and implementation of tracking and chain-of-custody systems for forest products to seek to ensure that these products are legally harvested.	x			
6. Invite Governments and relevant organizations to develop and forward to the Secretariat case-studies and research on the impacts of unsustainable timber and non-timber harvesting and related trade.		x		
GOAL 2				
Address socio-economic failures and distortions that lead to decisions that result in loss of forest biological diversity.				
Objective 1				
Mitigate the economic failures and distortions that lead to decisions that result in loss of forest biological diversity.				
Activities				
1. Develop mechanisms to ensure that monetary and non-monetary costs and benefits of forest biodiversity management are equitably shared between stakeholders at all levels.	x			
2. Develop, test and disseminate methods for valuing forest biological diversity and other forest ecosystem goods and services and for incorporating these values into forest planning and management, including through stakeholder analysis and mechanisms for transferring costs and benefits.	x			
3. Incorporate forest biological diversity and other forest values into national accounting systems and seek to estimate such figures for subsistence economies.		x		
4. Elaborate and implement economic incentives promoting forest biological diversity conservation and sustainable use.	x			
5. Eliminate or reform perverse incentives, in particular subsidies that result in favouring unsustainable use or loss of forest biological diversity.	x			
6. Provide market and other incentives for the use of sustainable practices, develop alternative sustainable income generation programmes and facilitate self-sufficiency programmes of indigenous and local communities.		x		
7. Develop and disseminate analyses of the compatibility of current and predicted production and consumption patterns with respect to the limits of forest ecosystem functions and production.	x			
8. Seek to promote national laws and policies and international trade regulations are compatible with conservation and sustainable use of forest biological diversity.	x			
9. Increase knowledge on monetary and non-monetary cost-benefit accounting for forest biodiversity evaluation.	x			
GOAL 3				

Increase public education, participation, and awareness.				
Objective 1				
Increase public support and understanding of the value of forest biological diversity and its goods and services at all levels.				
Activities				
1. Increase broad-based awareness of the value of forest biological diversity through international, national and local public awareness campaigns.	x			
2. Promote consumer awareness about sustainably produced forest products.	x			
3. Increase awareness amongst all stakeholders of the potential contribution of traditional forest-related knowledge to conservation and sustainable use of forest biological diversity.	x			
4. Develop awareness of the impact of forest-related production and consumption patterns on the loss of forest biological diversity and the goods and services it provides.	x			
5. Increase awareness of the value of forest biological diversity amongst public authorities and decision makers through specific information and training actions.	x			
6. Implement effective measures to recognize, respect, protect and maintain traditional forest-related knowledge and values in forest-related laws and forest planning tools, in accordance with Article 8(j) and related provisions of the Convention on Biological Diversity.	x			
7. Develop awareness of the value of forest biological diversity among forestry workers, owners of forest land, logging contractors, and consulting firms.	x			
PROGRAMME ELEMENT 3: KNOWLEDGE, ASSESSMENT AND MONITORING				
GOAL 1				
To characterize and to analyse from forest ecosystem to global scale and develop general classification of forests on various scales in order to improve the assessment of status and trends of forest biological diversity.				
Objective 1				
Review and adopt a harmonized global to regional forest classification system, based on harmonized and accepted forest definitions and addressing key forest biological diversity elements.				
Activities				
1. Review and adopt a minimum forest classification for forest types, compatible with remote sensing technologies, that includes broad indicators of biodiversity that can be taken into account in all international and regional forest-related programmes, plans and activities.	x			
2. Adapt frequency of forest resource inventory at regional and global scales, where resources permit, preferably at least to every ten years.	x			
3. Review and contribute (from the biodiversity point of view) to standard forest definitions in cooperation with the United Nations Forum on Forests and the Collaborative Partnership on Forests to be used in global and regional reporting to the scale of forest types.	x			
Objective 2				

Develop national forest classification systems and maps (using agreed international standards and protocols to enable regional and global synthesis).			
Activities			
1. Review existing national forest ecosystem classification systems and maps.	x		
2. Develop and apply national forest ecosystem classification systems and maps that include key components of forest biological diversity to be used in assessment reports on forest types including socio-economic and cultural aspects.	x		
3. Use adapted technology, for example geographic information system, to develop a baseline for assessing levels of deforestation and impacts on biodiversity.	x		
Objective 3			
To develop, where appropriate, specific forest ecosystems surveys in priority areas for conservation and sustainable use of forest biodiversity.			
Activities			
1. To identify and prioritize relevant areas to carry out these surveys.	x		
GOAL 2			
Improve knowledge on and methods for the assessment of the status and trends of forest biological diversity, based on available information.			
Objective 1			
Advance 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.			
Activities			
1. Advance the development and implementation of international, regional and national criteria and indicators based on key measures within the framework of sustainable forest management.	x		
2. Develop and select international, regional and national criteria and where appropriate quantifiable, indicators for forest biological diversity, taking into account, as appropriate, existing work and processes on criteria and indicators on sustainable forest management, as well as the knowledge held by indigenous and local communities. Such criteria and indicators should be used for assessment reporting at least 10-year intervals.	x		MPFE
GOAL 3			
Improve understanding of the role of forest biodiversity and ecosystem functioning.			
Objective 1			
Conduct key research programmes on the role of forest biodiversity and ecosystem functioning.			
Activities			

1. Develop and support focused research to improve understanding of the relationship between forest biological diversity and ecosystem functioning, taking into account forest ecosystem components, structure, functions and processes to improve predictive capability.	x		
2. Develop and support research to understand critical thresholds of forest biological diversity loss and change, paying particular attention to endemic and threatened species and habitats including forest canopies.	x		
3. Develop and apply forest ecosystem restoration techniques to address biodiversity loss at the ecosystem level.		x	
4. Develop and support research on impact of current forest management practices for forest biodiversity within forests and on adjacent land.	x		
GOAL 4			
Improve the infrastructure for data and information management for accurate assessment and monitoring of global forest biological diversity.			
Objective 1			
Enhance and improve the technical capacity at the national level to monitor forest biological diversity, benefiting from the opportunities offered through the clearing-house mechanism, and to develop associated databases as required on a global scale.			
Activities			
1. Develop and implement a strategy and a plan of action and facilitate transfer of technology to provide infrastructure and training in developing countries, in order to monitor forest biological diversity and develop associated databases.			Has not yet decided how to proceed.