THE UN CONVENTION ON BIOLOGICAL DIVERSITY

Follow-up in EEA Member Countries 1996

by

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Cover Design:Folkmann Design and Promotion
Printing cover:Interprint A/S

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ISBN: 92-9167-062-6

Printed on recycled and chlorine-free bleached paper

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Foreword

For global biodiversity the present most important overall initiative is the United Nations Convention on Biological Diversity from 1992.

The preparations and the convention period put the focus very much on what biodiversity is and what it means to mankind and what the globe will be like for our children if we fail in safeguarding biodiversity at all its levels. But it is in the follow-up activities after the Convention that biodiversity concerns must become an everyday issue, at all levels from local to global. The actual broad, publicly understood and continued cross-sectorial follow-up activities are the most important part of the work.

As part of the follow-up activities all parties to the Convention shall develop or adapt strategies, plans or programmes for the conservation and sustainable use of biological diversity and integrate the conservation and sustainable use into relevant sectoral or cross-sectoral plans, programmes and policies.

This is not an easy task for any country, it takes time and resources and new ways of thinking and it involves many acting parties not normally collaborating. Each country has to find its own solution to its own problems. The European Environment Agency has wished to analyse this process and to inform on the many and varied experiences in order that it may be an inspiration for future similar work. The analysis took part during 1996 and concerned the activities as they were developing at that time. Since then countries have naturally continued to work. The results of the report should therefore be used to understand and evaluate the huge combined and global effort made on biodiversity during these years and not to look at individual countries.

The report contains an overall analysis of material collected during late 1996 and brought up to date by early 1997. As background for the analysis the Agency held a workshop in September 1996. The Institute of Terrestrial Ecology, Monks Wood, Abbots Ripton, Huntingdon, PE17 2LS, United Kingdom, managed the workshop and has produced both the technical report from the workshop and this report.

Executive Summary

The United Nations Convention on Biological Diversity (CBD) was signed at Rio de Janeiro in 1992 by 157 Parties or States, including the European Community and all 18 Member Countries of the European Environment Agency (EEA). In 1996 the EEA let a contract to ITE to assess progress in its Member Countries towards implementation of the Convention at the national level. A questionnaire survey was sent to official national focal points for the CBD: 16 replies were received and analysed; a Workshop was held for delegates from official bodies, scientific institutes and the EEA to discuss the responses and consider a number of relevant issues of common concern to all Member Countries.

The survey showed that ten countries had established a national biodiversity coordinating body; all had either developed a national strategy in response to the Convention or were in the process of doing so; three had published a biodiversity action plan, four were preparing one and seven intended to do so in the near future. All countries had integrated, or intended to integrate, conservation and sustainable use of biodiversity into relevant sectoral or cross sectoral plans.

14 countries reported that they had identified relevant components of biodiversity in relation to conservation and sustainable use, and 16 had monitoring programmes in place or planned to evaluate the effects of adverse impacts. In most cases, these impacts had not been compared with the overall status and trends in biodiversity. All countries had implemented plans or used existing legislation to satisfy requirements for *in-situ* conservation; the EU Habitats and Birds Directives were frequently cited.

The main challenge for signatories to the Convention is to turn plans into effective action, and the survey showed that many Member Countries appeared to have problems in achieving this, thus slowing down the process. Examples of good practice which have been demonstrated in a few countries should act as guidance for others. A key question is whether the Convention has actually changed policies and actions at the national level, or would these have happened without the Convention? The survey at this early stage of implementation of the CBD could not answer this question.

Successful implementation of the Convention requires: cooperation and coordination both at different levels within a country and internationally; gathering suitable knowledge on biodiversity and disseminating it through education and information programmes; establishing a political, ethical, moral and financial commitment; adoption of suitable legislation and enforcement measures; setting targets and indicators.

Box 1: Biodiversity

Biodiversity is the whole variety of life-forms on Earth, ranging from mammals, birds, reptiles, amphibians, fish, insects and other invertebrates, to plants, fungi, algae and micro-organisms. Scientists have tried to estimate the number of species and agree that the majority have not yet been described: they may number between 5 and 30 million. However the concept of biodiversity goes beyond the multiplicity of species, and includes the variability of genes and of forms within a species, and the assemblages of plants, animals and micro-organisms which together constitute ecosystems and natural habitats. The Convention on Biological Diversity defines biodiversity as:

> **'The variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.'**

This definition therefore includes three levels of biodiversity: (a) diversity between and within ecosystems and habitats; (b) diversity of species; and (c) genetic variation within individual species. The linkage between species and their habitats is vital: changing a habitat will usually affect the diversity of species contained within it, while conversely a change in species number and composition may well affect the nature of the habitat. A crucial indicator of the "health" of a local environment is obtained from its wildlife community. If the rate of change (particularly, of loss) is markedly greater than long-term evolutionary processes would imply, this could indicate a systematic problem to which serious attention should be paid. UNEP[1] has estimated that species extinction has been 50 to 100 times the natural rate for the past four centuries, and that this is expected to rise to 1000 to 10000 times the natural rate.

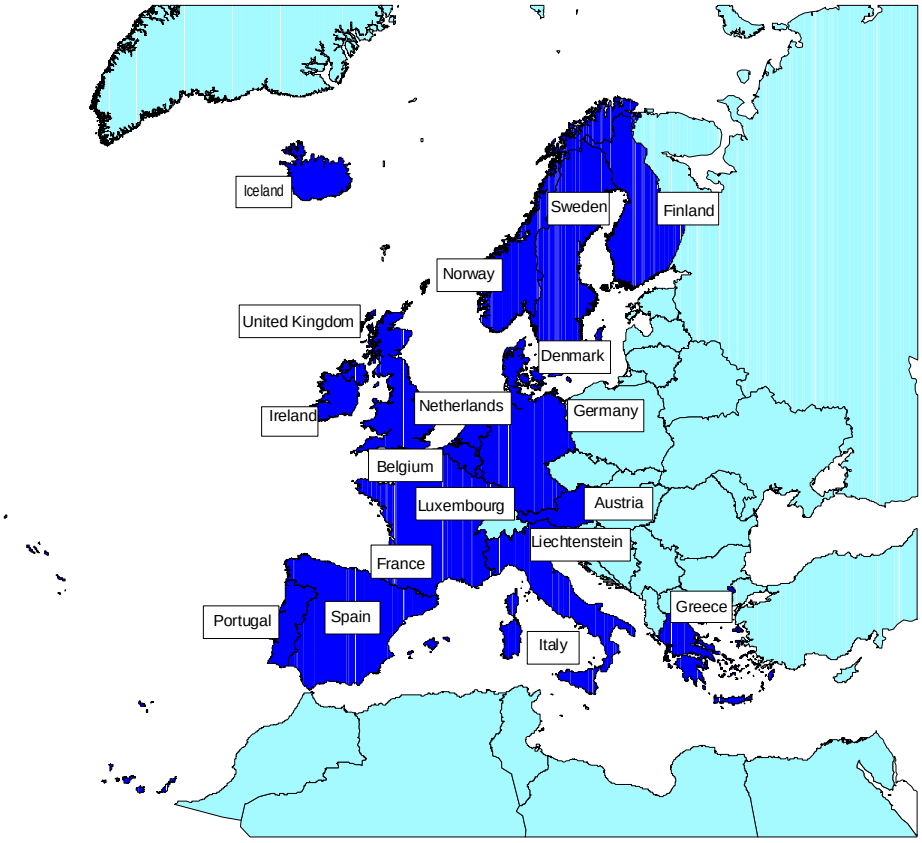
Agenda 21, adopted at the Earth Summit in Rio de Janeiro in 1992, states the importance of biological diversity to mankind as follows:

> **'Our planet's essential goods and services depend on the variety and variability of genes, species, populations and ecosystems. Biological resources feed and clothe us and provide housing, medicines and spiritual nourishment. The natural ecosystems of forests, savannahs, pastures and rangelands, deserts, tundras, rivers, lakes and seas contain most of the Earth's biodiversity. Farmers' fields and gardens are also of great importance, while gene banks, botanical gardens, zoos and other germplasm repositories make a small but significant contribution. The current decline in biodiversity is largely the result of human activity and represents a serious threat to human development.'**

[1] UNEP (1995), GlobalBiodiversity Assessment

EXECUTIVE SUMMARY

Figure 1: EEA Member Countries



1 Introduction

1.1 Scope of the Study

CONNECT, the European Nature Conservation Research Institutes network, in association with the European Topic Centre on Nature Conservation (ETC/NC) of the European Environment Agency (EEA), has recently completed a contract for the EEA examining progress being made in the 18 EEA Member Countries with regard to national implementation of the Convention on Biological Diversity (CBD, see Box 2). By the time this study began most of the EEA Member Countries (see Map), and the European Union itself, had ratified the Convention, and all had done so by the end of 1996. The EEA's interest in assessing Member Countries' progress confirmed links between national obligations under the Convention and the EEA's work on nature conservation and integrated environmental assessment, and its project IC5 on the state and prospects of International Conventions. The EEA was also anxious to support its Member Countries in coordinating their national follow-up work on the CBD.

The underlying aims of the study were:

- to stimulate national reporting activities;
- to provide a forum for exchange of information on national approaches;
- to gather information for the European Commission relevant to its own follow-up.

A project core team was set up with experts in biodiversity information and integrated assessment, including one directly involved in the planning and implementation of the Convention. The survey of progress centred around a questionnaire sent to official national focal points in all 18 EEA Member Countries, and a subsequent workshop. The survey was supported by the CONNECT and ETC/NC networks of ecological research institutes and nature conservation bodies, covering 14 of the 18 Member Countries, which collaborated in providing in-country commentaries on the responses.

A very good response to the survey questionnaire was obtained, with completed replies received from 16 of the Member Countries. The initial survey results were discussed by a workshop including representatives of the official national focal points to the CBD, research institutes, non-governmental organisations, the EEA and the core team. Problems in the interpretation of some specific questions, which had given rise to variable responses, were overcome by discussion clarification following the workshop and subs clarification.

A full report including the detailed responses to the survey, which had been augmented following the workshop, was delivered to the EEA in December 1996. The current report summarises the national follow-up activities, considers them in the contexts of the EEA's work on biodiversity assessment and of cross-sectoral issues, and concludes with examples of best practice and an account of problems and difficulties faced by EEA Member Countries in implementing the Convention.

1.2 National Responsibilities under the Convention

In ratifying the Convention, EEA Member Countries became committed to implementation of all its Articles (see Box 2). Specific Articles of greatest interest to the EEA include:

Article 6 Development of national strategies, plans and programmes;
Article 7 Identification and monitoring of components of biodiversity; identification of adverse impacts, maintenance of suitable data;
Article 8 *In-situ* conservation measures.

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Box 2: Summary of the Convention on Biological Diversity

The Convention contains 42 Articles and is a legal framework to promote the adoption of all measures aimed at ensuring (i) conservation of biodiversity, (ii) sustainable use of its components, and (iii) the fair and equitable sharing of benefits arising from the use of genetic resources.

Article 6: Develop or adapt **national strategies, plans or programmes** for the conservation and sustainable use of biological diversity, and **integrate** the conservation and sustainable use of biological diversity into relevant **sectoral or cross-sectoral** plans, programmes and policies.

Article 7: **Identify components** of biological diversity important for its conservation and sustainable use, and **monitor** those components, particularly those requiring urgent conservation measures and those which offer the greatest potential for sustainable use. Identify and monitor processes and activities likely to have significant **adverse impacts** on the conservation and sustainable use of biological diversity, and **maintain and organise data** derived from monitoring.

Article 8 covers ***in-situ* conservation**: Establish a system of **protected areas** to conserve biological diversity, together with guidelines for their selection, establishment and management. Manage biological resources important for the conservation of biological diversity whether within or outside protected areas; promote the protection of **ecosystems** and **natural habitats** and maintain viable **populations of species** in natural surroundings; promote environmentally sound and sustainable development in **areas adjacent** to protected areas. **Rehabilitate** and **restore** degraded ecosystems; promote the **recovery** of threatened species; regulate or control risks associated with the use and release of **living modified organisms** resulting from biotechnology which are likely to have adverse environmental impacts; control **alien species** which threaten biological diversity; maintain knowledge, innovations and practices of **indigenous and local communities** embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity. Support *in-situ* conservation in **developing countries**.

Article 9: Promote ***ex-situ* conservation** of components of biological diversity, preferably in their country of origin. Establish facilities for appropriate **research**, and measures for the **recovery and rehabilitation** of threatened species and their **reintroduction** into their natural habitats. **Manage collections** of biological resources from natural habitats for *ex-situ* conservation purposes so as not to threaten ecosystems and *in-situ* populations of species. Provide financial and other support for *ex-situ* conservation facilities in **developing countries**.

Article 10: **Integrate** conservation and sustainable use of biological resources into **national decision-making**; adopt measures for the use of biological resources to avoid or minimise **adverse impacts** on biological diversity; protect **traditional cultural practices** that are compatible with conservation or sustainable use; support local populations to develop and implement **remedial action** in degraded areas where biological diversity has been reduced; encourage cooperation between **governmental authorities** and the **private sector** in developing methods for sustainable use.

Article 11: Adopt economically and socially sound measures that act as **incentives** for the conservation and sustainable use of components of biological diversity.

Article 12: Take into account the special needs of developing countries for **research and training**. Establish and maintain programmes for scientific and technical **education, training and research** for the identification, conservation and sustainable use of biological diversity and its components.

Article 13: Promote **public understanding** of the importance of conservation of biological diversity in the **media and educational programmes**, and cooperate with other states and international organisations in developing educational and **public awareness** programmes.

Article 14: Introduce appropriate procedures to require **environmental impact assessment** of proposed projects that are likely to have significant **adverse effects** on biological diversity and, where appropriate, allow for **public participation** in such procedures. Promote **reciprocal notification** and consultation on activities under Contracting Parties' jurisdiction or control likely to have significant adverse effects on the biological diversity of **other states** or areas beyond the limits of national jurisdiction. Notify potentially affected states immediately of **imminent danger or damage** to biological diversity originating under their own jurisdiction or control. Promote national arrangements for **emergency responses** to such events, whether caused naturally or otherwise, and encourage international cooperation through joint **contingency plans** to supplement national efforts.

Article 15: Encourage access to **genetic resources** for environmentally sound uses by other Contracting Parties; develop scientific research based on genetic resources provided by other Parties (with their full participation), and **share the results** and commercial **benefits** of such research and development.

Article 16: Provide and/or facilitate **access** for and **transfer** to other Contracting Parties of **technologies** that are relevant to the conservation and sustainable use of biological diversity or make use of **genetic resources** and do not cause significant damage to the environment. Provide access to and transfer of these technologies to the other parties which provide those resources. Encourage the **private sector** in this aim for the benefit of both governmental institutions and the private sector of developing countries. Cooperate with respect to **patents** and other **intellectual property rights** that may have an influence on the implementation of the Convention.

Article 17: Facilitate the **exchange of information** relevant to the conservation and sustainable use of biological diversity, taking into account the special needs of developing countries. Include results of **technical, scientific and socio-economic research**, as well as information on training and surveying programmes, and specialised, indigenous and traditional knowledge.

Article 18: Promote international technical and scientific **cooperation** in conservation and sustainable use of biological diversity and in implementing this Convention through the development and implementation of national policies. Develop and strengthen national capabilities by means of **human resources development** and **institution building**, training of personnel and **exchange of experts**. Promote joint research programmes and **joint ventures** for the development of relevant technologies.

Article 19: Provide for effective participation in **biotechnological research** activities by those Contracting Parties, especially developing countries, which provide the genetic resources for such research. Promote **access** on a fair and equitable basis for Contracting Parties to the **results and benefits** arising from biotechnologies based upon genetic resources which they provide. Set out appropriate procedures for the **safe transfer, handling and use** of any **living modified organism** resulting from biotechnology that may have an adverse effect on the conservation and sustainable use of biological diversity. Provide information about the use and **safety regulations** which are required in handling such organisms, and on the **potential adverse impact** of the specific organisms concerned to the Contracting Party into which those organisms are to be introduced.

Article 20: Undertake to provide, in accordance with capabilities, **financial support and incentives** for those national activities which are intended to achieve the objectives of this Convention, in accordance with national plans, priorities and programmes. Developed country Parties should provide new and **additional financial resources** to enable developing country Parties to meet their agreed full **incremental costs** of implementing measures which fulfil the obligations of this Convention.

Article 26: Present **reports** to the **Conference of the Parties** on **measures** which have been taken for the implementation of the Convention and their **effectiveness** in meeting its objectives.

1.3 The Third Conference of Parties

The third session of the Conference of Parties to the CBD, held in Buenos Aires from 4 to 15 November 1996, sought to address implementation in the context of decisions on timetabling adopted at the 2nd COP held in Jakarta one year earlier. Of the many discussions held and decisions adopted, those most relevant to this study are as follows:

- Several delegations emphasised the centrality of Articles 6 and 8 to the successful implementation of the Convention, and the EU emphasised both *in-situ* and *ex-situ* conservation, integration of biodiversity into relevant sectoral policies, and benefit-sharing. Several countries highlighted the UN-Norway Conference on Alien Species and recommended that Parties use its results in their implementation of Article 8(h) (control of alien species). The final decision also highlighted that a central role of the Clearing House Mechanism should be the sharing of experiences and dissemination of information relevant to Articles 6 and 8, and emphasised that the first national reports, to focus on measures taken to implement Article 6, should be submitted no later than 1 January 1998.

- Debating Article 7, most delegations endorsed the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) recommendations on assessments and assessment methodologies, identification and monitoring, indicators, and capacity building for taxonomy. The EU said development of indicators should be given a high priority. A decision was adopted calling on the Global Environment Facility (GEF) to provide financial resources to developing countries to address the need for capacity building, including taxonomy, to enable them to develop and carry out initial assessment for designing, implementing and monitoring programmes in accordance with Article 7.

- Input from the CBD to the Intergovernmental Panel on Forests was considered, and numerous delegations supported the formulation of a medium-term programme of work to develop and implement methods for sustainable forest management. SBSTTA's initial work programme which includes devising methodologies for the development of criteria and indicators of sustainable forest management and analysing the impact of human activity on the loss of forest biological diversity was endorsed. A decision was also taken to provide a report to the 4th COP on the status and trends of biodiversity in inland water ecosystems.

- Concerning indigenous knowledge, the COP adopted a decision requesting Parties to develop national legislation to implement Article 8(j) (on indigenous knowledge) in consultation with indigenous and local communities, and to include information on this in national reports. The decision also requested background documentation to consider linkages between Article 8(j) and issues such as technology transfer, access, ownership of genetic resources, intellectual property rights, and alternative systems of knowledge protection and incentives.

- Addressing cooperation between the CBD and other biodiversity-related conventions, reports provided by the Secretariat acknowledged the need to facilitate an exchange of information and experience among related Conventions, harmonise reporting requirements, and coordinate programmes of work. The COP decision called for the Ramsar Convention to act as a lead partner in the implementation of activities under the CBD related to wetlands, urged for national biodiversity plans and strategies to incorporate the conservation and sustainable use of wetlands and migratory species and their habitats, and encouraged cooperation with the Conventions on Climate Change and Desertification.

2 The Survey and Workshop

2.1 Response to the Survey

Fourteen of the 18 EEA Member Countries replied to the questionnaire survey by the time of the international workshop held in London in September 1996, while two replied later.

The results presented here therefore cover detailed information received from 16 countries and some general information from one country. All EEA Member Countries had formally ratified the Convention by the end of 1996.

In 14 EEA Member Countries the government ministry responsible at national level for the follow-up of the Convention is the Environment Ministry. In three other countries, nature conservation and implementation of the Convention is the responsibility of a government department with a different title: in the Netherlands this is the Ministry of Agriculture, Nature Management and Fisheries, in Ireland, the Department of Arts, Culture and the Gaeltacht, and for Belgium responsibility is divided between the Federal State Secretariat for Security, Social Integration and Environment and the Federal Ministry for Science Policy. In 14 out of 16 countries the responsible organisations or their agencies also completed the survey.

There were differences in approach to completing the survey, particularly in three respects: (i) financial aspects (some countries were unable to separate out different components of their overall budget due to the cross-cutting nature of many of the issues; there were also differences in interpretation over what expenditure should be included); (ii) reference to submitted documents (the replies to some questions referred to published documents without elaborating the detail); and (iii) amount of detail supplied (some countries supplied detailed lists in response to certain questions, while others presented a summary). These differences in approach created difficulties in making between-country comparisons in terms of progress in meeting the obligations of the Convention. The workshop held subsequently gave an opportunity for some of these differences to be made apparent and normalised.

One general problem for Federal States was that the national response referred to delegation at state (regional) level without indicating what kind of response these regions had given to the Articles of the Convention.

Most of the countries probably did not overstate their response to the Convention to date, but it was somewhat unclear what kind of difference the Convention had made to their general biodiversity management work. Many of the countries gave answers which referred to the ongoing development of strategies and action plans, and it seems obvious that this assessment came too early in the implementation process for them. However, the alternative view is that many countries seemed slow in their implementation of the Convention, and little or no information was provided on how they will react once their strategies and plans are ready.

The independent appraisals of the survey responses largely confirmed that, in the view of the scientists concerned, the official responses had been an adequate statement of the true position with regard to the implementation of the Convention in their country. In a very small number of cases there were differences of opinion, which led to revisions of the responses and ultimate agreement.

2.2 Analysis of Results

General Approach by Member Countries

The survey asked whether a national biodiversity coordinating body, assembly or committee had been established to follow up the Convention. Establishment of such a body was not required by the Convention, but was an approach adopted by many Contracting Parties. Furthermore, the survey asked whether national strategies, plans or programmes for the conservation and sustainable use of biological diversity had been developed or were planned, and whether it was intended to adapt an existing strategy.

Ten out of 17 countries had a formal biodiversity coordinating body (see Figure 2), but most countries had no clearly identifiable budget. The terms of reference for the coordinating body were, for example, 'to implement the objectives of the Convention' (Finland), 'development of a national strategy' (Austria), 'implementation and coordination' (Netherlands); 'developing costed targets …' and 'recommending ways ...' (UK). The exception was Ireland, where the terms of reference were 'to consider the implications of the Convention for Government Departments'. Most countries intended to adapt or use existing legislation in order to meet obligations under the Convention, where possible.

Article 6 General Measures for Conservation and Sustainable Use

Five countries had national strategies in place at the time of completing the survey, and of the 10 which were developing strategies all but two expected these to be completed by the end of 1997. Most countries intended to use legislation already in place. Only three countries already had national action plans in operation, five were developing them, and the remainder stated this as a future priority (see Figure 2). All sixteen countries had integrated, or intended to integrate, conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans. Environment, agriculture, forestry and fisheries and aquaculture were the sectors perceived to be have the greatest priority in this respect (see Figure 3).

Figure 2: National strategies and plans

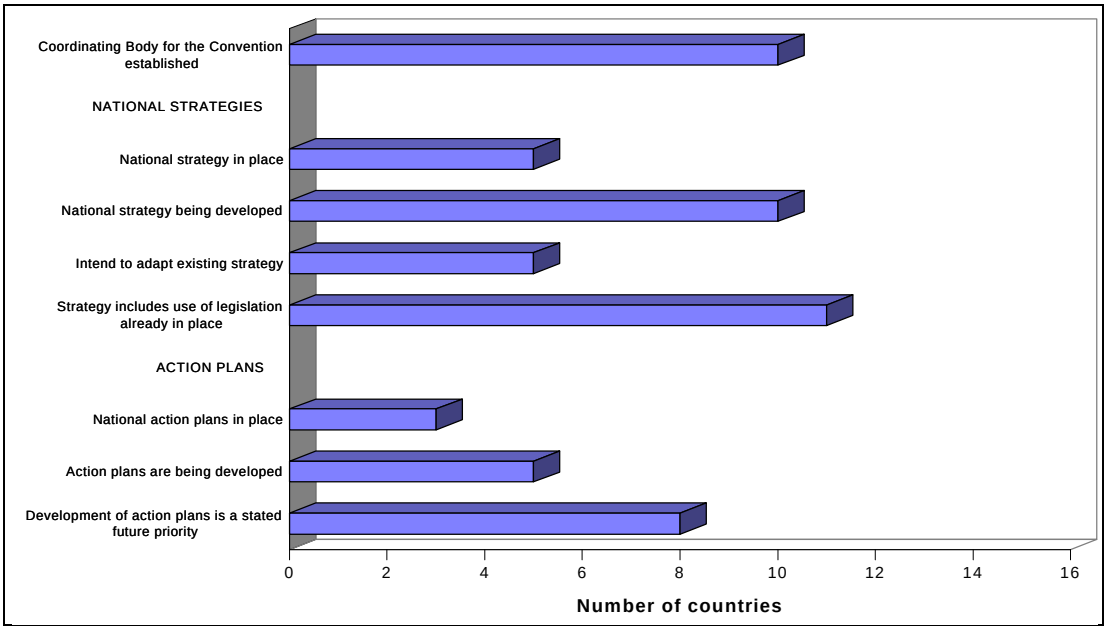
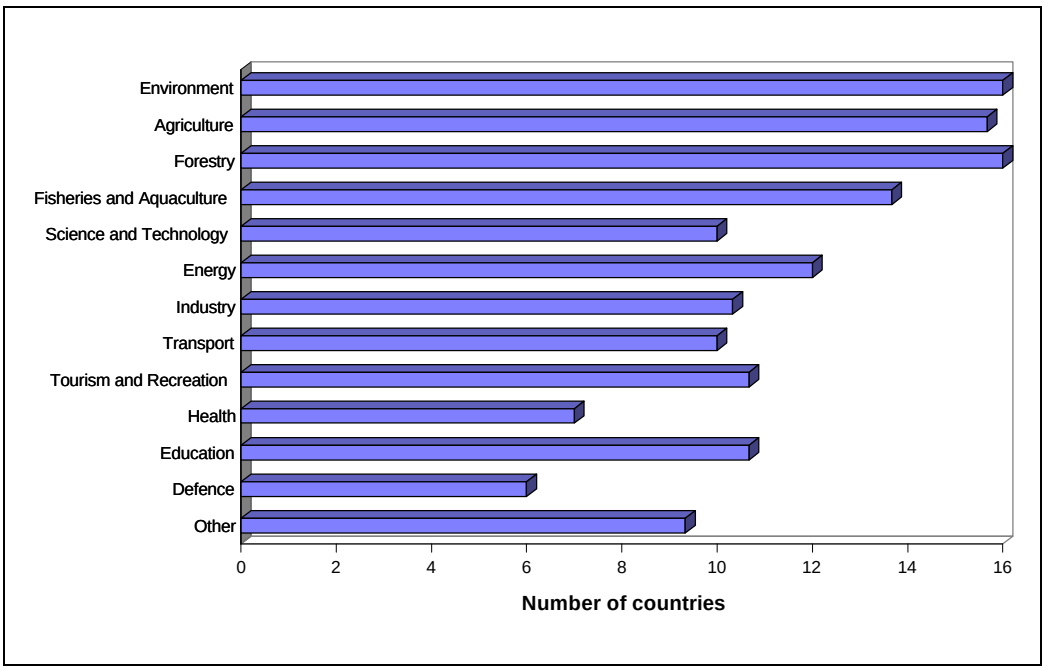
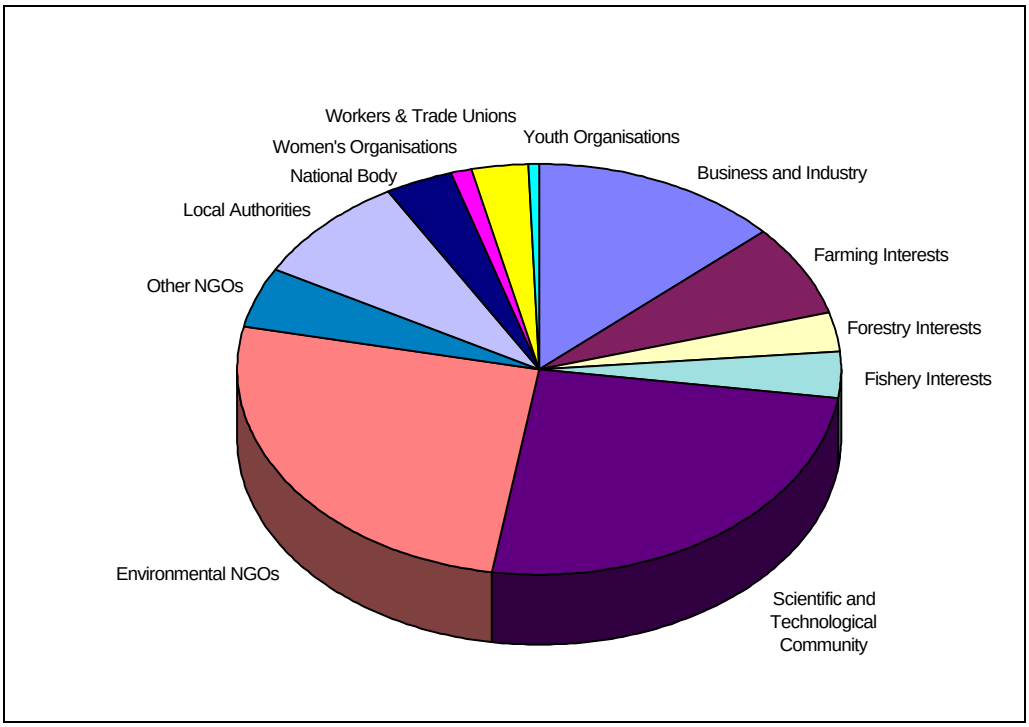


Figure 3: Government sectors integrated intosectoral or cross-sectoral plans.



In drawing up national strategies and plans, Contracting Parties are required to consult widely. In the survey, respondents were asked for the names and roles of prominent major groups or non-governmental organisations (NGOs) participating in the development of biodiversity action plans. It appeared that the interests of business and industry had been given greater priority than (for example) farming and fishery interests. However, as might be expected, environmental NGOs and the scientific and technological community were the most widely involved (see Figure 4). The amount of governmental financial support to national biodiversity efforts of the groups and NGOs involved was extremely variable. All but two of the sixteen countries had made a financial commitment, although five countries were unable to put an absolute value on their contribution.

Figure 4: Major official groups andNGOs participating in development of action plans

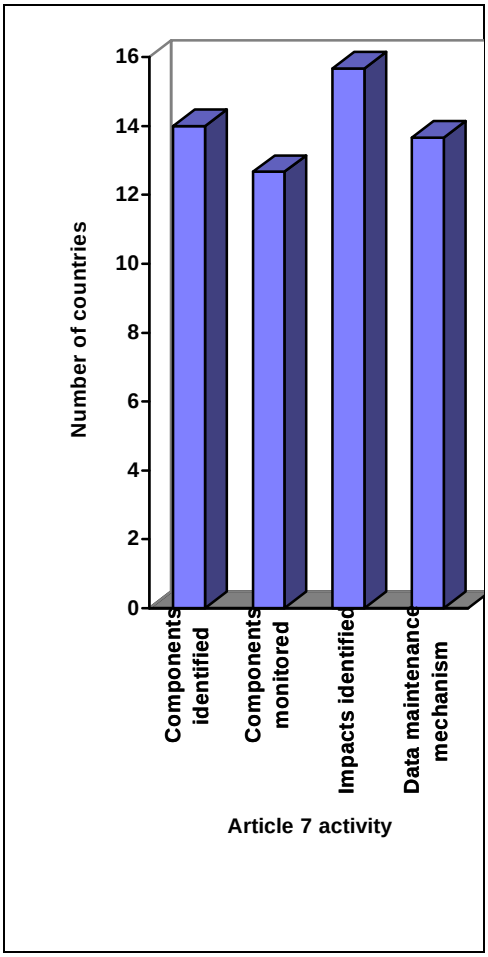


Article 7 Identification and Monitoring

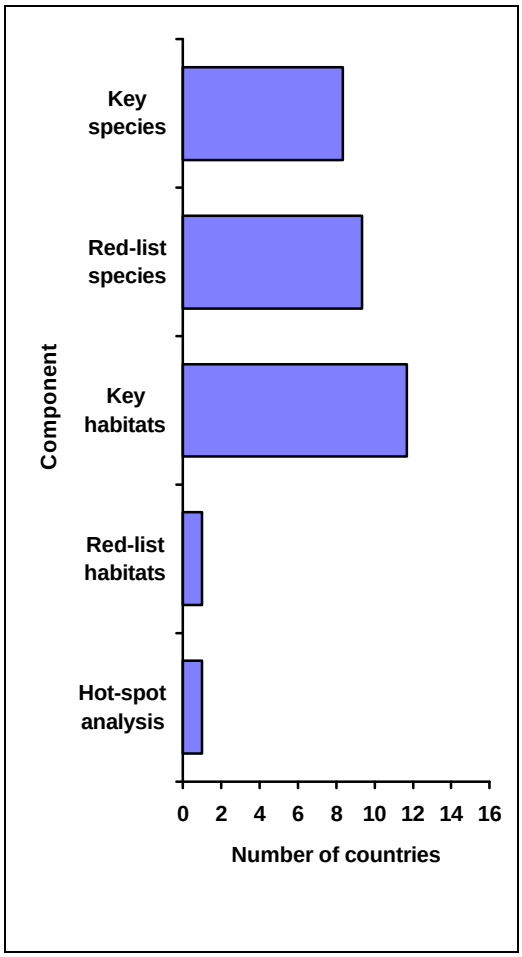
Only two countries had yet to identify components of biodiversity (see Figure 5) for which it was important to consider issues of conservation and sustainable use, and in both of these countries work was in progress. In the other countries this activity generally took the form of drawing up lists of key species and habitats, or red lists of species. Only one country reported a red list of habitats, and one was undertaking a "hotspots" analysis to determine greatest needs.

Monitoring systems had been set up or were being planned where such components were identified, and these generally focused either on species or habitats requiring urgent conservation measures, or on species or habitats which have a "high profile" in terms of public awareness. More extensive biodiversity monitoring programmes had yet to be implemented in most countries. All countries either had monitoring programmes in place or planned to evaluate processes or activities likely to have adverse impacts on certain components of biodiversity. However, in most cases, these impacts had not been compared with the overall status and trends in biodiversity. Most countries made use of indicators of biodiversity or impacts in their monitoring programmes, but little information was supplied concerning the monitoring programmes *per se*. In many cases it was intended to store information collected in computerised databases, sometimes linked to geographical information systems, but there was little agreement over the systems and format best suited to the task. The setting of specific targets for maintaining biodiversity was seen to be a useful tool in meeting obligations under the Convention, but the setting of these targets had been approached in a wide variety of ways. Nine countries were developing targets to some extent.

Figure 5: Identification and monitoring of components of biodiversity



Types of components identified



Article 8 In-situ *Conservation*

Not all aspects of Article 8 were examined in the survey, but from the replies received it was apparent that the majority of countries had made considerable progress towards meeting their obligations (see Figure 6). The establishment of protected areas was frequently linked to the requirements under the EU Habitats and Birds Directives and to the consequent establishment of the Natura 2000 network of protected areas, or to other previously existing protection schemes. Least progress had been made towards meeting obligations under Article 8 (h) and (j): measures to control alien species which threaten ecosystems, habitats or species, and securing indigenous practices and knowledge relevant to biological diversity. Fifteen countries had legislation for the protection of threatened species, and eight countries had an identifiable budget for *in-situ* conservation.

Nine countries reported implementing either eight or nine of the possible measures under Article 8, but others reported that they had implemented only one and two respectively (Figure 7).

Figure 6: **In-situ** *conservation measures implemented*

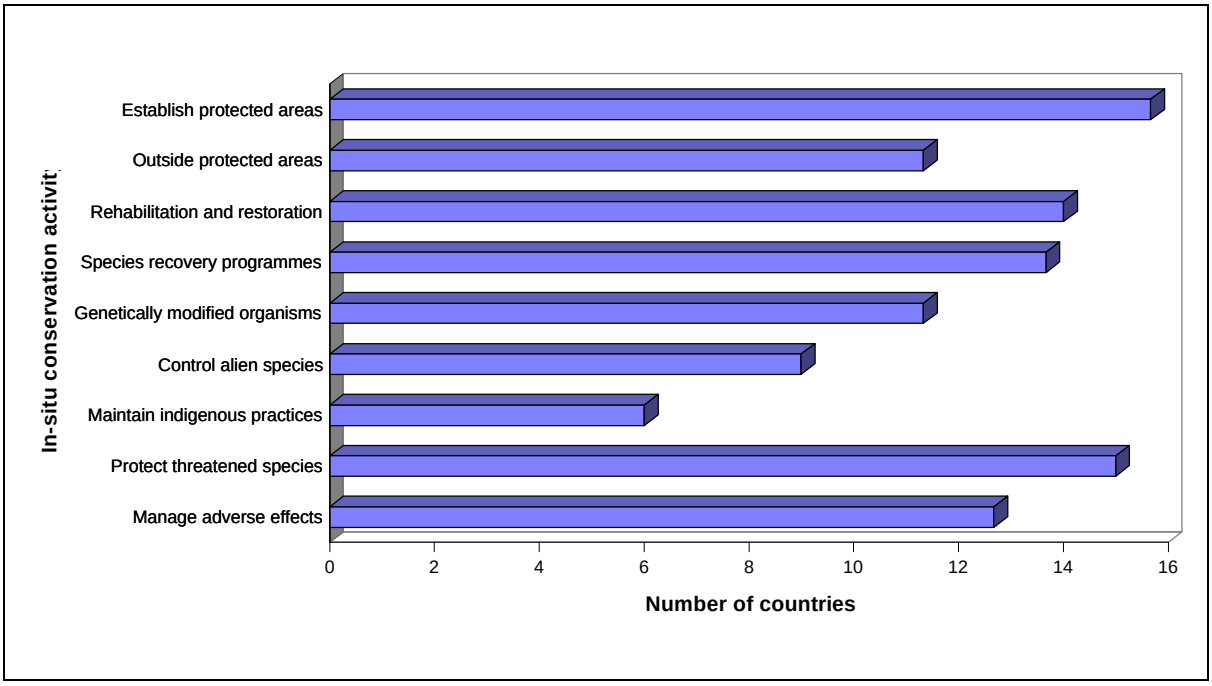
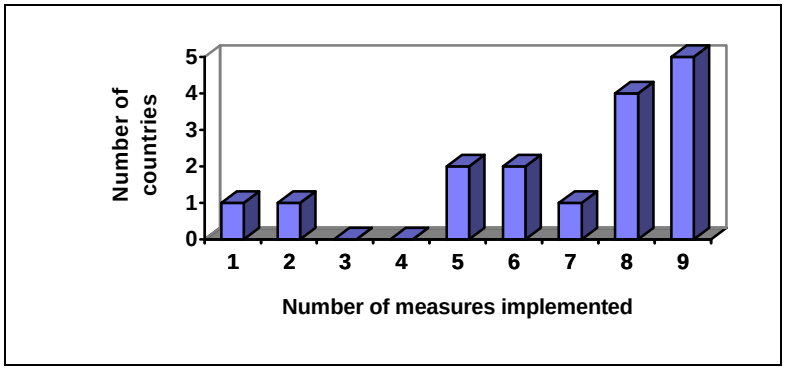


Figure 7: Numbers of **in-situ** *conservation measures implemented (maximum 9)*

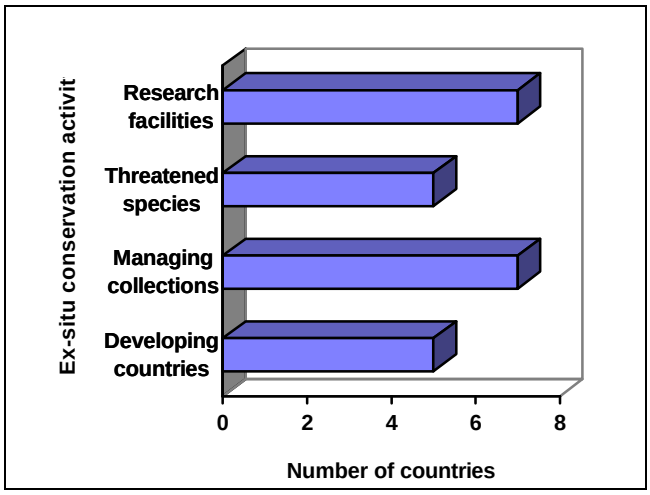


Article 9 Ex-situ *Conservation*

All but three countries either had existing measures, or had plans to incorporate measures concerning *ex-situ* conservation in their national action plans. The conservation measures included tended to be specific to a particular group of organisms within a particular country, for example, fish, trees or agricultural grain, and to take the form of gene banks or breeding programmes. In general, action plans promoted the extension and development of existing programmes (see Figure 8), for example, establishing and maintaining research facilities, measures for the recovery, rehabilitation or reintroduction of threatened species, or managing collections of biological resources from natural and semi-natural habitats. In five countries support was also given to *ex-situ* conservation facilities in developing countries. None of the respondents were able to supply details of a budget allocation: nine countries gave no response to the financial part of

the question, while the remaining four were either unable to supply details at the time, or could not separate out this component.

Figure 8:* Ex-situ *conservation activities reported

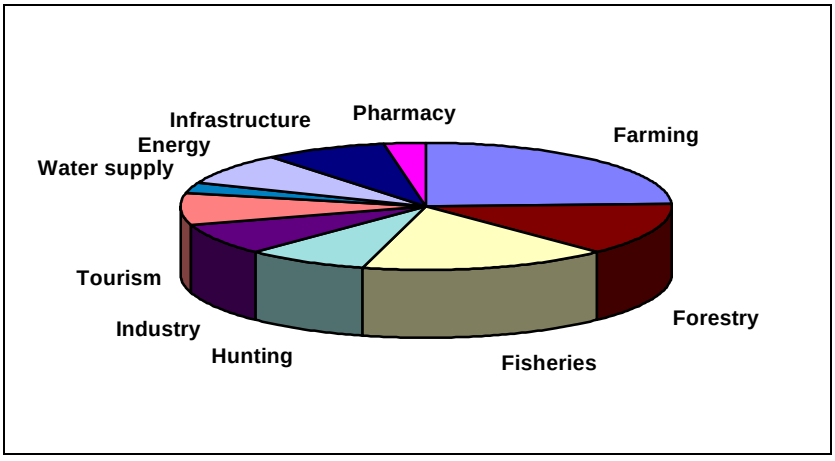


Article 10 Sustainable Use of Components of Biological Diversity

This Article requires *inter alia* that Contracting Parties should integrate consideration of the conservation and sustainable use of biological resources into national decision making, and that governments and the private sector should be encouraged to cooperate in developing methods for sustainable use.

In most (12 out of 16) countries such cooperation was encouraged, particularly with respect to agricultural activities and forestry (see Figure 9), but cooperation was only linked in any way to sectoral plans in six countries. Criteria for sustainable use of biological resources had been established in six countries, and were planned in two others. These criteria concerned forestry in three countries, and aquatic systems in another. One country noted the need for indicators of sustainability.

Figure 9: Parts of the private sector involved in development of sustainable use



Article 11 Incentive Measures

All but two countries had, or were developing, specific socio-economic measures to act as incentives for the conservation and sustainable use of biological resources (for example, environmental subsidies, agri-environment measures, farming subsidies), but very few were able to give an actual cost of these measures. The majority of these incentives were in the areas of agriculture and forestry. Several countries mentioned subsidies to encourage more "nature-friendly" farming methods, sometimes linking this with the EU agri-environment regulation 2078/92/EEC. Two countries mentioned funding to provide compensation for damage caused by large predators. In both Belgium and Germany the measures were being taken at the regional rather than federal level.

Article 12 Research and Training

Contracting Parties are required to establish and maintain programmes for scientific and technical education, and training for the identification, conservation and sustainable use of biological diversity and its components. Six countries had set up such programmes specifically to meet their obligations under the Convention, while three others were in the process of modifying existing programmes. In two cases existing programmes had been modified already, while in two further countries existing training programmes were deemed to be sufficient to meet obligations. Only two countries were able to give an actual cost of setting up such programmes. Mechanisms to encourage research and cooperation in the conservation and sustainable use of biological diversity existed or were being developed in 14 out of 15 countries (one did not respond to this question), but only seven included mechanisms to promote international cooperation. The needs of developing countries in this context were specifically taken into account by ten countries, but in most cases little information was provided as to the mechanisms involved.

Article 13 Public Awareness and Education

Respondents were asked whether education and public awareness was being promoted regionally, nationally or internationally as part of their plans or strategies. This aspect received a high priority within each of the responding countries (with the possible exception of one which did not reply to this question). All except one intended to promote public awareness nationally, but only five countries regionally. International cooperation on this issue had a lower priority, with only four countries giving a positive answer. It was unclear from several countries' responses whether these public awareness programmes had been strengthened as a result of the Convention or had already been in existence.

Article 14 Impact Assessment and Minimising Adverse Impacts

In all sixteen countries procedures for environmental impact assessment were already in place, usually being required by Acts of Parliament (for the Flemish region only in Belgium). Only four countries specifically mentioned the EU Directive on Environmental Impact Assessment (85/337/EEC), although all EU Member States were required to implement this Directive. Species, habitats or ecosystems were the most frequently cited components of biodiversity involved, and all countries used public participation such as public enquiries in assessment procedures. While 13 countries stated that they were planning, or already had introduced, means to take environmental consequences of their programmes and policies into account in their planning procedures, there was little information and no examples of how this was to be effected. Most countries were not taking any action on subsidies which have adverse environmental consequences: these were being identified and would be phased out to a greater or lesser extent in three countries; the issue was being actively considered in one other country.

Considering procedures for notifying neighbouring states of immediate dangers to their biological diversity, responses given by many of the countries (with one exception) suggested that they were unaware of the UN-ECE Convention on Environmental Impact Assessment in a Transboundary Context (Espoo

Convention of 1991), although all EEA Member Countries (except Liechtenstein) are parties to this Convention. This meant that the national responses probably underestimated the real situation. Eight countries specified that they had emergency response procedures to deal with activities or events which presented an imminent danger to biodiversity within their own borders, often relating specifically to oil spills. 11 countries indicated that they had arrangements in place with other countries for exchange of information concerning cross-border impacts on biodiversity (many specifically for aquatic ecosystems, such as shared rivers, estuaries or marine waters) and noted formal arrangements under ECE Conventions. Eight of these countries had some kind of formal agreements for notifying other states of immediate danger to their biological diversity, particularly with respect to oil spills, while others were considering this issue or the use of informal procedures.

Article 15 Access to Genetic Resources

The aim of this Article is to encourage access to genetic resources for other Contracting Parties, and to share the results of scientific research based on genetic resources. Four countries stated that they currently controlled access (with a further specific instance of control regarding endangered species), but only two of these did not intend to relax such controls to comply with the requirements of the Convention. Two countries, however, stated that they had measures to promote the equitable sharing of research results and benefits arising from the commercial and other utilisation of genetic resources. Two further countries had proposals for future measures. Seven countries had, or soon would have, joint programmes with other states for research on genetic resources, particularly with respect to commercial crop plants. Three of these seven responses specifically mentioned research involving developing countries.

Article 16 Access to and Transfer of Technology

Access by other states to technologies relevant to conservation and sustainable use of biological diversity or genetic resources was promoted in the public sector by eight countries, and six countries had cooperation with developing countries (for example, through aid programmes). Only two countries, however, had measures that required the private sector to cooperate with government institutions in this respect, or with the private sector in developing countries; one further country had voluntary agreements.

Article 17 Exchange of Information

Nine countries facilitated exchange of information relevant to conservation and biological diversity, or intended to do so; four countries specifically cited the Clearing House Mechanism to be set up under the Convention (the pilot phase of which has been extended to December 1998). Five of the other countries had not yet elaborated such plans and two did not respond to the question. Of the nine countries which responded positively, eight included exchange of the results of technical, scientific and socio-economic research, as well as information on training and surveying programmes, specialised knowledge, indigenous and traditional knowledge.

Article 18 Technical and Scientific Co-operation

Respondents were asked about their governments' plans for provisions to promote international technical and scientific cooperation in the field of biological diversity. The ten countries which gave a definite response all gave positive replies concerning their obligations for at least some of the five parts[2] of Article 18. Cooperation in the field of biodiversity through national and international institutions and through the training and exchange of expertise was given the highest priority. Of the remaining six countries, three

[2] Development and implementation of national policies with other Contracting Parties; strengthening national capabilities in other/developing countries by means of human resource development and institution building; development of indigenous and traditional technologies; training of personnel and exchange of experts; establishment of joint research programmes and joint ventures.

were unable to respond to the question since plans had not been finalised, one made no national response while two did not make any response to this question at all.

Article 19 Handling of Biotechnology and Distribution of its Benefits

Regulations for the safe transfer, use and handling of living modified organisms resulting from biotechnology which may have adverse effects on biological diversity had been incorporated into the national plans of seven countries; by specific Acts in three cases and by implementation of EU Directives in four. Four more countries had plans under development. Five had no regulations or did not respond to the question. Where regulations existed, a register of information concerning these organisms was kept, or (in one country) was in preparation. Where regulations were under development, three countries had no register as yet, but one country did keep records of organisms notified or approved.

Article 20 Financial Resources

Because of the cross-cutting nature of many of the issues concerning biodiversity, many countries were unable to identify specific budgets for follow-up activities. Only six countries were able to give a figure for their support and incentives for the follow-up of the Convention, (Article 20, part 1). There were differences in respondents' interpretation of the survey concerning this, and some amounts given related to internal administrative costs rather than the cost of the measures themselves. Nine countries stated that they had provided new or additional funds to enable developing countries to meet their obligations under the Convention, eight of which specifically cited their contributions under the Global Environment Facility. However of the nine, only four were able to estimate actual cash figures. Two countries did not respond to the question.

Article 26 Reports

Under the agreed reporting arrangements of the Convention, there is a requirement on governments to report on the measures they have taken to implement the provisions of the Convention. Although no party had yet formally to submit such a report, a list of associated relevant reports was compiled from the responses to the survey. There were differences in the amount of detail supplied by each country concerning such publications: 10 countries had already published a total of 36 plans and reports, while 10 countries were planning reports, mostly to be published in 1997 as part of their obligation to report to the Conference of the Parties (some countries being in both categories).

2.3 Summary of the Workshop

The workshop, held in London on 26-27 September 1996, was attended by 35 experts from 16 countries, including representatives of ten national focal points for the Convention and 12 representatives of the scientific networks associated with the study, together with members of the project Core Team, the European Commission DGXI, ETC/NC and EEA staff and representatives of international non-governmental organisations. The workshop was viewed by the EEA as an opportunity for the national focal points to the Convention to exchange information and ideas, to judge their performance (and problems in implementation) in relation to others, and to examine both mutual problems and possible mutual solutions. Overall it was hoped that the workshop would enable team building.

The European Commission representative stressed the fact that the European Community is a Contracting Party to the Convention. All EU States have now ratified the Convention. The European Commission had an important role to play in order to propose and to achieve concerted Community action towards the conservation and sustainable use of biological diversity. It was noted that previous Conferences of the Parties and meetings of the Subsidiary Body on Scientific, Technical and

Technological Advice (SBSTTA) dealt with overloaded agendas without achieving very concrete progress in the implementation of the Convention. The Commission representative underlined the urgent need to see real progress. The Community already had legislation in place (i.e. the Habitats Directive) which allowed Member States to achieve part of the objectives of the Convention. Building upon the current Community legislation and action, the Commission's proposal for a Community Biodiversity Strategy would be developed and presented to the Council of Ministers and to the Parliament in 1997. The Community Biodiversity Strategy should not be confused with the "Pan-European Landscape and Biological Diversity Strategy" developed under the auspices of the Council of Europe. The Community Biodiversity Strategy would deal with the three objectives of the Conventions and concentrate on the integration of biodiversity concerns in relevant sectoral and cross-sectoral policy areas. It would be complementary to the strategies of the Member States and be prepared in close cooperation with them.

The international perspective was given by the current chairman of SBSTTA (Peter Schei). The implementation of the Convention was being developed through a series of interpretations and recommendations at meetings of the Conference of the Parties (CoP) and SBSTTA, and decisions at the CoPs. The Convention should be considered as an umbrella convention which enabled consolidation of related regional and global conventions (e.g. the Berne Convention). He suggested that the national strategies and action plans of EEA Member Countries should, as a minimum, cover: Article 6 concerning the integration of biodiversity into the various sectors, which should be a specific responsibility for EEA Countries; Article 11 concerning incentives which exist but counter biodiversity; Articles 16, 17, 18 and the Clearing House Mechanism concerning the provision of information to developing countries; Article 19 concerning biotechnology; and Articles 20 and 21 concerning financial resources. Cooperation with east European countries was important, as was the importance of biodiversity to the bigger issue of sustainable development. Implementation standards for reporting, control and evaluation mechanisms should be set, together with a system for internal control (self regulation).

To illustrate issues raised at the national level, four Member Countries were invited to make short presentations on their progress with implementation of the Convention (see Box 3).

Box 3: Illustration of issues raised at national level

Finland: The strategy was 'to enhance cooperation and understanding among Ministries, relevant agencies, research institutions and organisations', and involved obtaining a commitment at the personal level, for example from the various Ministries. A biodiversity adviser now sits on every official government committee. The Ministries of Traffic, Health, and Social Services, however, were having problems in understanding the technical language used in aspects of the issues involved.

Portugal: The coordinating body was not a defined structure but an existing government Institute with official responsibility for nature conservation. It has established linkages between the Government Agencies or Ministries, but these have mainly concerned the development of protocols that constituted follow-up actions and the application of existing national legislation. A national strategy for implementation was yet to be produced, and a tangible coordinating body was required.

United Kingdom: The first Biodiversity Plan was published in 1994, and provided goals and objectives in the form of 59 broad targets. Subsequently a Biodiversity Steering Group was established, comprising four subgroups and including representatives from the different sectors, which defined biodiversity in more detail and advised the Government of specific, costed targets. 1252 targeted species are to be monitored in order to detect change, and 38 key habitat types. 14 habitat action plans have been produced, and national targets have been translated into local biodiversity action plans. 57 initiatives are

under development (for example, promoting public awareness and education). The international dimension needed to be further developed, and the EU Common Agricultural Policy was seen to be a major problem area needing reform if biodiversity action plans were to work.

The Netherlands: A 'strategic plan of action' sat at the apex of many nature conservation, foreign affairs, economic and social policy documents, and provided a formal analysis of the relevant parts of many policies as a means of identifying legal gaps and ensuring biodiversity was treated as a cross-sectoral issue. There was, therefore, no budget for biodiversity *per se*, because this was subsumed in the budgets of the different sectors, and the term 'additional money' should be used. There was an Interdepartmental Working Group on Biodiversity, housed in the Ministry of Agriculture, Nature Conservation and Fisheries, and involving two other Ministries, and a Netherlands Biodiversity Platform which enabled NGOs to work together on an informal basis. Problem areas concerned cooperation between international secretariats, translating policy into action, the participation of local and regional authorities, and the appeasement of nature conservation groups.

The workshop then went on to address four specific issues in smaller working groups:

- minimum standards for implementation of the Convention and criteria for success;
- problems in national implementation of the Convention;
- linking knowledge on biodiversity status and trends with the effectiveness of the Convention;
- the approach to cross-sectoral integration.

2.4 Conclusions and Recommendations from the Workshop

Identification of criteria for success of the Convention and measurement of success

The ultimate criterion for success will be the reversing of all adverse trends, whilst steps towards that goal concern implementation of the various Articles of the Convention in order to meet its targets: conservation, sustainable use, and equitably sharing the benefits arising from the utilisation of genetic resources. Sustainable use, such that there is no decline of biodiversity, must be defined and identified, and the benefits must be shared among all stakeholders. There is no mechanism to 'police' whether minimum standards have been reached, other than peer pressure from other contracting parties.

The key questions in this process are:

- how do we measure which actions have led to success?
- what actions are the most effective?
- can we hope to conserve all biodiversity, or just reduce the rate of loss?
- should we focus on endemic species, or on endangered species?
- are indicators useful, and if so, which?

A working group at the workshop identified a list of necessary implementation steps which contracting parties should aim to achieve **by the year 2000** (Box 4).

Box 4: Necessary implementation steps by 2000	
Article 6	• identify in the strategy and action plan which sectors should take responsibility for each action, and the national mechanism for evaluation of results; • ensure there are funds and human resources to implement the plans.
Article 7	• list priority components of biodiversity; • establish a mechanism for monitoring components (as far as possible); • monitor general activities which are detrimental to identified components.
Article 8	Greater knowledge is the key to implementation of this Article. • actions should not only cover protected areas: there is a need to know to what extent biodiversity inside and outside protected areas is covered; • establish a risk analysis system for genetically modified organisms (GMOs); • establish action plans or mechanisms for the prevention, control or eradication of alien species; • establish mechanisms to involve indigenous peoples.
Article 9	• establish *ex-situ* conservation of endemic species which cannot be conserved *in-situ*; • clarify the position regarding species found only in other countries.
Article 10	• show what sustainable use mechanisms are in place as set out by the government; • show how traditional sustainable use of biological resources has been encouraged by the government.
Article 11	• identify adverse financial incentives and change them to positive ones that encourage biodiversity.
Article 12	• demonstrate what already exists, and what is going to be done to maintain and improve research and training levels; • give evidence of a contribution to educational training for the specific needs of developing countries, showing what is available and making an assessment of needs.
Article 13	• include a programme to promote public awareness and understanding in the national strategy.
Article 14	• EIAs should include impacts on biodiversity and the processes by which these occur; • state for what areas and what type of accidents and emergencies (and with which countries) joint contingency plans have been established.
Article 15	• achieve progress in international understanding of access to genetic resources.
Article 16	• state progress to foster technology transfer, including training and capacity building; • evaluate technology needs in developing countries.
Article 19	• undertake a parallel process for biotechnological research between providers and users of genetic resources.
Article 20	• state Governmental contributions to the Global Environment Facility (GEF); • ensure that contributions are paid on time.

Recommendations on links between knowledge on biodiversity status and trends and the effectiveness of the Convention

- Scientists must bridge gaps in understanding with decision-makers:

  Scientists always want to know more about a subject, but politicians need to make the decisions. Scientists must translate their information into a form which can be used and understood by administrators, but must accept that decisions often have to be made with incomplete data. The precautionary principle should apply, and information provided by NGOs can sometimes fill the gap between the needs of scientists and politicians. There is a need for standardised forms and guidelines of criteria and indicators to give to policy makers, and these should be reviewed and updated regularly. In addition, protection of species, habitats and sites must be compatible with sustainable use and economic viability. Threshold limits (e.g. "critical loads", critical size of habitats) for irreversibility of impacts need to be defined.

- EEA Member Countries should not rely on a limited range of legislative instruments and conservation principles:

  Reliance on the Habitats Directive and Birds Directive (for those EEA Member Countries which are also EU Member States) is not adequate to cover the need to gain knowledge on all aspects of biodiversity. For instance, "hotspots" (areas of high species diversity) will not cover all biodiversity, and some biotopes which are naturally poor in species are still important. Selection of the best from several comparable areas may cover a full range of overall diversity, but will not necessarily be reliable.

- EEA Member Countries must establish baselines:

  Baselines containing reference information are necessary in order to detect and assess trends (cf. resilience and stability of systems). A functional approach within the landscape ecology context is also necessary, particularly for assessing what constitutes sustainable use. The problem of scale should be noted.

- Adapt incentive schemes:

  Today, traditional agricultural/land use systems are rarely economically sustainable without government subsidies of one form or another (e.g. tax incentives, grants, tourism, premium of value of products). Incentive measures need to be adapted, and moral or ethical commitment can assist such re-thinking.

Initiatives that are related to these recommendations include:
(a) EUROSTAT's environmental indicators project,
(b) OECD's economic incentives for maintaining biodiversity,
(c) the EEA's monitoring methodology and ecological regions map,
(d) the EU Biodiversity Strategy, under development,
(e) Sweden's "Natural Step", where the logic of a dynamic system is used in the context of sustainable use.

Recommendations on the approach to cross-sectoral integration of biological diversity issues

- The problem:

  The environment has slipped down the political agenda in many EEA Member Countries, because job creation and competitivity are seen as top priorities, and so environment ministries are generally in a weaker bargaining position than in around 1990. Even where a coordinated approach is achieved, there is a need to be sure that it delivers tangible action rather than political window-dressing. The CBD is seen in a negative light by some "development-led" sectors: it stops their initiatives, and threatens their independent action. Other sectors defend themselves against CBD considerations by claiming that the EU determines their actions. Conservation agencies see sustainable development clauses of the Convention as a threat, so they do not lobby for action. Subsidies, and sometimes policies, in other sectors produce effects contrary to the aims of the CBD.

- Two levels of approach:

  At the top level, the approach might possibly involve Heads of State in the CBD process, for example by inviting them to the Conference of the Parties if it could be held at the same time and place as some other Heads of State meeting. At the EU level, the Commission should compile a list of major subsidies by sector, so as to identify where they exacerbate rather than alleviate threats to biodiversity, and examine new legislation in all sectors, to check that it is consistent with CBD and should thus in future avoid adopting subsidies which have adverse effects on biological diversity.

  Member Countries should exploit any high level opportunity to achieve a cross-sectoral approach, but the main thrust should be taken at the local level, where the relevance of the Convention is more easily described and owned. Emphasis on the local level will also take advantage of efforts invested in Agenda 21. For example, an injection of small amounts of funding can achieve a greater impact on local farmers than can governments in striving to alter the CAP. Agriculture is seen as a major threat to CBD principles, and positive incentives are required (as in Environmentally Sensitive Areas) rather than merely the negative stopping of subsidies. Other sectors should not be threatened, but their budgets should be used to achieve the aims of the CBD by adapting their policies, and they should be encouraged to do this because otherwise they will eventually lose out when their adverse impact on nature takes effect.

Box 5:	**Key areas of responsibility for each sector (depending on national / regional administrative structures)**
Agriculture	Administration of control/incentive mechanisms in commercial crop and stock husbandry
Fishing	Sustainable use of natural biodiversity Impacts of fish farming on natural biodiversity
Forestry	Sustainable use of natural biodiversity Impacts of plantation forestry on natural biodiversity
Hunting	Sustainable use of natural biodiversity
Tourism and recreation	Sustainable use of biodiversity mainly at the level of habitats/biotopes
Education	Investment in the future to assure a commitment to biodiversity in subsequent generations
Development	Administration of control/incentive mechanisms
Transport	Administration of development mechanisms
Energy and resource conservation	Administration of control/incentive mechanisms
Land owners	Form groups, mainly to lobby the administrative levels above, and also at local level
'Green' NGOs	Act as lobby groups with the potential to influence from the level of individual site owner/manager all the way through to national government

- Positive approaches must include:

  Language: there is a need to communicate with sectors using a common language. Scientific elitism is regarded with suspicion by administrators and land owners/users. There is a need to educate, and convince, administrators in many sectors as to the relevance of biological diversity to their economic activities and their impacts on biological diversity.
  Mutual Benefits: positive actions for biological diversity should identify mutual benefits for all relevant sectors. Nobody should be a loser, although it may take some efforts to convince the less informed sectors.

Further information on the concept of integrated environmental assessment of biological diversity and its relevance to the results of the survey is contained in Annex 1.

2.5 Survey Responses in the Context of the ETC/NC Projects

Box 6: The CBD survey responses in the context of the European Topic Centre on Nature Conservation projects on biodiversity assessment

Information contained in the survey that was relevant to the ETC/NC projects MN2 (state and trends of biodiversity in Europe) and MN3 (support to Natura 2000) was evaluated. The analysis is mainly based on answers related to Article 7 of the Convention, complemented as appropriate by those to Articles 6 and 8. However, since the stated aim of this study had been to avoid duplication of work, and, since questions linked to Articles 7 and 8 (monitoring and *in situ* conservation) had already been sent to the Member Countries of the EEA for the work programme of ETC/NC in 1995, it was agreed not to put detailed questions concerning monitored objects (species, habitats, sites, patterns), nor monitoring objectives and methodologies in the CBD survey.

Concerning the link to project MN2, some information about future national plans and measures will be helpful in updating the EEA Catalogue of Data Sources (CDS). There is currently an ETC/NC project on site-based data collection methodologies, the results from which will prepare a workshop to be held in 1997, on "Indicators for Biodiversity Status and Change". The coherence between the key (target) species mentioned in replies concerning Article 7 and national programmes on monitoring using indicator species has to be established. The question of terms (translation, scientific concepts) has to be stressed again.

Concerning the link to project MN3, seven countries mentioned the Habitats Directive (which establishes the Natura 2000 network) as a national contribution to either Article 7 or 8, or both. Two countries (Norway and Iceland) which are not members of the EU were not concerned. Meanwhile it might be subject to interpretation whether application of the EU Directives would become part of the national implementation of the CBD, since all EU Member States are obliged to apply the Habitats Directive.

This survey has highlighted the fact that the National Focal Points for the CBD and for the EEA are not necessarily the same, and those of the CBD more frequently overlap with the National Reference Centres on Nature Conservation of the EEA Environment Information and Observation Network (EIONET). Mutual information held between these parallel networks should be shared, for the benefit of all.

2.6 Difficulties and Problems Experienced in Implementation of the Convention

A number of common problems were raised at the workshop in London, in particular by those people in positions which gave them some official responsibility for implementing the Convention at a national level. They may have felt more able to speak freely in the working groups than in their more formal responses to the survey. The discussion, over two sessions, highlighted difficulties and problems under several headings.

Coordination at a national level

- In order to guarantee ratification of the Convention it was necessary to secure a political commitment. In most cases this was achieved at Rio, but in others the NGOs played a significant role. In certain instances anticipated international peer pressure arising from the 3rd Conference of Parties had probably prompted ratification;
- The primary key feature of the Convention is an international agreement to act at a national and local level. The second key component is that "biodiversity" is broader than just "conservation" and incorporates cross-sectoral concepts of sustainable use. The need for a cross-sectoral approach and public participation has been the main cause of problems limiting progress on implementation of the Convention;
- In some Member Countries, the Convention has been taken forward through a national committee. The membership has varied from a full representation of government departments, land owners and NGOs (e.g. UK, Sweden, Finland) to a small group of Ministries (e.g. the Netherlands). Difficulties have arisen when the land use interests, in particular, perceived the Convention to be a threat through increased designation of sites for conservation. The coordination committees worked most effectively when the representation was at an intermediate level and the parties saw benefit in compromise solutions.

Development of a national strategy

- The key objective is to develop a strategy which has cross-sectoral ownership. Most Member Countries used existing legislation to implement the Convention, although some have introduced new legislation. The main problem was to engage all sectors in the debate and to focus on the gaps in existing legislation. Progress was made in several Member Countries by broad circulation of the draft strategy;
- There are still many gaps in most national strategies. These relate to all areas, but the coastal and marine environment sector and international issues such as fisheries, whaling, technology transfer to developing countries, and property rights for genetic resources will require specific solutions outside the Convention framework, and the challenges of integration are greater.

Development of action plans

- The main objective of the action plans is to translate policy into action. This requires measurable actions with real targets. The difficulty has been to develop indicators as a basis for monitoring, audit and refocusing objectives. In most action plans the targets have been a compromise reached on a pragmatic basis. This may limit the short-term biodiversity gains but it was felt important to realise early successes, even if these were modest. In addition, the action plans are part of an evolutionary process. It was important to set these targets in place for sustainable use as well as conservation of biodiversity. Future agreements on free trade could threaten their objectives.

Indicators of sustainable use

- This was an important issue linking the Convention on Biological Diversity to Agenda 21, concerning Sustainable Development. The objective was to balance the need for economic development with sustaining biodiversity. The key problem has been to develop indicators for achieving biodiversity objectives (particularly for agriculture and forestry). These indicators and targets are essential if land use incentives are to produce ecological gains.

Fostering good practice in developing countries

- It was agreed that the international obligations of the Convention were less adequately covered in national action plans. There was little attention paid to economic activities in developing countries (the "ecological footprints" of developed countries' actions and interests).

Genetic resources

- There were several important issues (such as genetic erosion in isolated populations; genetic aspects of introduced species; consequences of invasions by alien species) which were only marginally considered in most national strategies. Access to genetic resources and national property rights were seen as an area of ongoing international negotiation. Most national strategies make no commitments on this issue.

General points

- Most Member Countries have made no extra financial resources available to implement the Convention;
- Adequate progress is dependent on public awareness and political commitment;
- Little progress has been made on modifying economic instruments at the European level which impact on biodiversity at the national level;
- There has been limited progress on biodiversity indicators as indicators of sustainable development: this is a key area for future research.

Examples of other problems mentioned in national responses to the survey

Organisational problems

- There were political difficulties in determining the Government Department responsible for the coordination of activities in elaborating the National Strategy;
- There were problems in creating a national committee on biodiversity where there are attempts to involve regional authorities as well as the private sector, NGOs and other social representatives;
- The time elapsing between consecutive COPs is too short to reach goals: it would be better to programme action on a triennial basis;
- The shift from implementing 'older' Conventions such as Ramsar, Berne, Bonn, CITES, and EU Directives (Birds, Habitats, Biotechnology) towards the biodiversity component of the European Environment Agency, the Convention on Sustainable Development and the CBD itself, creates an excessive workload for national institutions, as they are charged with new communication and coordination duties on much broader policy issues.

Cross-sectoral problems

- The content of the Convention does not fit into existing traditional competencies, partly due to the cross-cutting nature of the issues;
- There are difficulties in defining the responsibilities of departments other than environment, agriculture, forestry, hunting and fishery;
- There are difficulties in developing and implementing sustainable use methods in forestry, agriculture and fisheries;
- There are difficulties in defining the importance of biodiversity in urban areas, as well as in maintaining ecological relationships between green areas within urban areas;
- There are difficulties in realising the full potential values of biodiversity for sustainable development, for example in promoting the development of new energy sources and of new environmentally-friendly industrial, agricultural and pharmaceutical products;
- The total planning scheme for biodiversity has become rather complex and activities relevant to the implementation of the Convention are not always explicitly identified as being part of the national strategy on biological diversity;

- It is (more often than not) a matter of interpretation whether a given policy or measure can actually be said to be an implementation of a specific article in the Convention.

Limitations of knowledge
- Lack of biodiversity professionals in some sectors of society;
- Lack of quantitative and qualitative scientific information on the existing genetic resources, species, and habitats at the national level;
- Lack of operational networks between scientists and institutions which deal with relevant issues at the national, European and Mediterranean levels, and lack of funds for relevant joint research or implementation projects;
- Lack of standards and methodologies which are also reflected at international and European levels, especially in evaluating the ecosystem component. Broadly-used perceptions are either too general to allow wide interpretations or very country-specific.

Financial constraints
- Financial mechanisms concerning implementation of the Convention should be viewed within the GEF framework, which is not fully adequate: restructuring and a sharing mechanism are necessary;
- Financial problems are being faced in order to develop different issues of the implementation of the Convention, like cooperation projects, organisation of seminars and publications;
- Funds and personnel in the competent authorities are insufficient to tackle the issues, especially since the efforts so far have concentrated on establishing and managing reserves for endangered species and habitats, which still remains a priority.

2.7 Examples of Best Practice

The responses to the survey included many details of approaches which had been adopted or were under development at the national level to follow up the Convention. So as to draw out some examples of "best practice", the responses provided by Finland and the Netherlands, in particular, might act as the basis of recommendations for optimal follow-up procedures, at earlier and later stages in the process respectively. These examples are summarised here, but this does not imply that "best practice" is not also being followed in other Member Countries.

Finland noted that its strategy was 'to enhance cooperation and understanding among Ministries, relevant agencies, research institutions and organisations', and involved obtaining a commitment at the personal level from the various Ministries. The goals of the Finnish strategy are to:

- Ensure the conservation of biodiversity and the sustainable use of biological resources, including ecosystems, species and their habitats, and genetic resources;
- Increase opportunities for different stakeholders to participate in the development and implementation of policies and programs relating to the conservation of biodiversity and the sustainable use of biological resources;
- Develop and improve public education and awareness to promote the conservation of biodiversity and the sustainable use of biological resources.

A biodiversity adviser now sits on every official government committee in Finland, with the objective of furthering these goals. In general, the coordination committees appear to work most effectively when the representation is at an intermediate level and the parties see benefit in compromise solutions.

Having established this set of goals and level of involvement in government processes, Finland is now completing its national strategy and national action plan through a national biodiversity committee, which will also guide the production of sectoral plans. Existing biodiversity monitoring programmes will be strengthened through a new working group, and comparison of status and trends with adverse impacts is also planned. Much of Finland's (and many other Member Countries') *in situ* conservation programme is based on its response to EU Directives, especially the Habitats Directive. Socio-economic incentives towards conservation and sustainable use are directed towards management of nature in commercial forests. On Environmental Impact Assessment, the Finnish Act of 1994 covers 18 project categories potentially affecting nature conservation, natural resources and ecosystems. Finland is a party (and host) to the Espoo Convention on EIA in a Transboundary Context, Helsinki Convention on the Baltic Sea, and several other international agreements. Technical and scientific cooperation is afforded through joint Nordic Council activities and organisations such as the CONNECT network of conservation research institutes.

The Netherlands has established a national coordinating body for the follow-up to the Convention at government level, involving six ministries, which focuses on the implementation of the national strategic plan of action. There is also a coordinating mechanism at the NGO level, including about 65 members of the Netherlands Biodiversity Platform. Apart from legislation to ratify the Convention, no new legislation has been necessary, since existing legislation already coped with the obligations under the Convention. Several sectoral plans have been developed to include policy, programmes and actions relevant to the implementation, and 30 additional actions have been formulated to cover gaps in existing sectoral and cross-sectoral planning. A large number of organisations representing NGOs, local authorities, scientific and technological communities and farming interests were involved at national, regional and local levels in drawing up the plans and in their implementation.

Monitoring of biodiversity components including collection of long-term data on ecosystems, habitats and species is well established, and indicators are being developed for both biodiversity values and impacts. Indicators concerning the contribution of target groups such as agriculture, industry, energy and transport to environmental problems are in full operation. 128 nature target types have been identified in order to set clear, biodiversity based priorities for nature conservation, nature restoration and nature development. These nature target types also include process-indicating parameters, which are used to link up with environmental policy and are used to identify the possible forms of sustainable use.

The national government is actively encouraging participation of the private sector in the field of nature conservation and the environment (both nationally and internationally). In addition actions are being taken based on the strategic plan of action to integrate further biodiversity aspects in economic policy and planning through increased dialogue and economic incentives, with a special focus on production and marketing.
At the regional and local level the policy is also directed towards increasing involvement of all relevant parts of the private sector in the conservation and sustainable use of all components of biodiversity at both large and small scales. A broad range of subsidies and project based incentives is available to nature managers, farmers, foresters, local interest groups and NGOs. Furthermore, biodiversity-directed tax incentives are available for estate owners and for financial investments in nature and environment projects.

3 Conclusions of the Study

This survey and workshop have given the opportunity to take stock of the follow-up activities at a national level which have begun in EEA Member Countries during the four years since the adoption of the Convention and its signing at Rio. The Convention contains many examples of actions which Contracting Parties are advised to undertake. This requires not only the commitment to plan these actions, but also to ensure that policy is translated into action: there must be measurable actions with real targets. It is important to realise early successes, even if these are modest, and to set these targets in place for sustainable use as well as conservation of biodiversity.

The workshop addressed such targets in agreeing a set of “minimum criteria for success”, described above. However, the survey showed that in reality many EEA Member Countries seemed to have been slow in their implementation of the Convention, and little or no information was provided in the responses on how they would react once their strategies and plans were ready. For example, in all sixteen Member Countries which replied in full, procedures for environmental impact assessment were already in place, but it was not clear that the results were acted upon. Subsidies which had adverse environmental consequences were identified in only three Member Countries, and would be phased out to a greater or lesser extent; the issue was being actively considered in just one other Member State.

An important question to be considered in examining the national responses to the survey questionnaire is "has the Convention actually changed policies and actions at a national level, or would these have been adopted without the Convention?". Most countries reported that they intend to adapt or use existing legislation in order to meet obligations under the Convention. For example, the establishment of protected areas was frequently linked to the requirements under the Habitats Directive and to the Natura 2000 network of protected areas, or to other previously existing protection schemes, but was not sufficient to meet the obligations of the Convention (Article 8). Action plans for *ex-situ* conservation (Article 9) in general promoted the extension and development of existing programmes.

A number of common themes highlight a set of requirements for the successful implementation of the Convention:

Cooperation and coordination

- It is necessary to identify a department responsible for the coordination of activities in following up the Convention, and for a multi-disciplinary group wider than official government departments to provide an oversight of the national response. Only ten countries have such a body. The Convention requires there to be a cross-sectoral approach, but the survey responses showed that of groups consulted in the development of national strategies and plans, the interests of business and industry had been given greater priority than those of farming and fishery, for example. NGOs appeared to play an important role in the follow-up activities in several countries. Progress was made in several countries by broad circulation of the draft strategy. In several countries cooperation (on sustainable use) was not linked closely to sectoral plans.
- A general problem for Federal States was that the national response to the survey referred to delegation at state (regional) level without indicating what kind of response these regions had given to the relevant Articles in the Convention. It is not clear what national actions are being taken in these situations.
- At an international level, cooperation with east European countries was important for EEA Member Countries, as was the importance of biodiversity to the wider issue of sustainable

development. Seven countries had, or soon would have, joint programmes with other countries for research on genetic resources. Only two countries, however, had measures that required the private sector to cooperate with government institutions and the private sector in developing countries in this respect. Eight countries mentioned programmes for exchanging the results of technical, scientific and socio-economic research, as well as information on training and surveying programmes, specialised knowledge, and indigenous and traditional knowledge.

Action Points for Member Country Governments:

- **identify a multi-disciplinary group to provide an oversight of the national response to the Convention**
- **establish a mechanism to achieve a cross-sectoral approach which is transparent, identifying which sectors are involved**
- **set implementation standards for reporting, control and evaluation mechanisms, together with a system for internal control**
- **state for what areas and what types of accidents and emergencies, and with which countries, mechanisms for dealing with cross-boundary incidents have been established**

Gathering knowledge, education and dissemination of information

- Compared to other broad environmental problems, such as climatic change or acidification, it is much more difficult to quantify the assessment of biodiversity and of changes in the state of the biotic environment. Extensive biodiversity monitoring programmes had yet to be implemented in most countries, and in most cases these impacts on biodiversity had not been compared with the overall status and trends in biodiversity. ETC/NC reports in 1995 on monitoring and indicators had stated the need for further research and development of appropriate methods, and also the need for the harmonisation of approaches.
- Scientists must translate their information into a form which can be used and understood by administrators. Governments should demonstrate what information and research already exists, and what they are going to do to maintain and improve research and training levels. The lack of biodiversity professionals in some sectors of society was perceived as a problem. There is a need for standardised forms and guidelines of criteria and indicators to give to the policy makers, and these should be reviewed and updated regularly.

Action Points for Member Country Governments:

- **implement biodiversity monitoring programmes**
- **compare impacts on biodiversity with the status and trends in biodiversity**
- **initiate further research on methods for monitoring and develop appropriate indicators**
- **disseminate scientific information in standardised forms which can be understood and used by administrators and policy makers**

Commitment: political, moral, ethical and financial

- Adequate progress is dependent on public awareness and political commitment. The systems of government organisation in Member Countries tended to conflict with the cross-cutting nature of the biodiversity issues involved, and this created institutional problems, financial difficulties, and the need for coordination of efforts.
- Responses to the survey suggested that most countries have made no extra financial resources available to meet their obligations under the Convention within their own borders. Nine countries stated that they had provided new or additional funds to enable developing countries to meet their obligations under the Convention.

- The main areas of need concern the identification of cash flows within national government, knowing at national level what regional and local authorities are doing, and knowing what is spent outside government. There should be, as a minimum standard, some reporting on finance; possibly on direct cash flows, and an evaluation of the use of positive and negative economic incentives.

Action Points for Member Country Governments:
- **adopt programmes for improved public awareness and increased political commitment**
- **make additional financial resources available to meet obligations under the Convention within own borders, and provide new or additional funds to developing countries for this purpose**
- **identify cash flows and establish reporting arrangements on financial arrangements**

Legislation and enforcement
- There is a legal basis for the policy framework and political decisions in that ratification of the Convention acts as the formal basis, and decisions should be taken (in parallel with ratification) to adapt laws as necessary. The Convention itself is not very strict in this respect, and a minimum standard might be outside the scope of the Convention.
- In implementing the Convention, the main problem reported was the need to focus on the gaps in existing legislation. It should be noted that there is no mechanism to "police" whether minimum standards have been reached other than peer pressure from other contracting parties. The aim should be to share the benefits (for example, of sustainable use) among all stakeholders.

Action Points for Member Country Governments:
- **draw up list of legislation in place to implement the Convention**
- **review the effectiveness of these laws at a later stage, focused on gaps in existing legislation**

Targets and indicators
- The setting of specific targets for maintaining biodiversity was seen to be a useful tool in meeting obligations under the Convention, but the establishment of these targets had been approached in a wide variety of ways. There has been limited progress on development of biodiversity indicators as indicators of sustainable development. This is a key area for future research. These indicators and targets are viewed as essential if land use incentives are to produce ecological gains. One country noted the need for indicators of sustainability.
- Integrated environmental assessments (IEA, see Annex I) are necessary to examine the inter-relationships between the driving forces created by human activities in different economic sectors and their resulting pressures on the environment, and changes in the state of the environment, impacts on ecosystems and the consequent political responses (the so-called "DPSIR" framework). The survey was unable to discover examples of any such assessments currently in operation in EEA Member Countries.

Action Points for Member Country Governments:
- **establish specific targets for maintaining biodiversity**
- **undertake research to develop biodiversity indicators of sustainable development**
- **initiate procedures for integrated environmental assessment of biological diversity**

CONCLUSIONS OF THE STUDY

North-South issues

- These were fundamental to the discussions at Rio. Delegates to the workshop felt that government aid departments should be more involved because much of the pressure to see progress was coming from developing countries.

Action Points for Member Country Governments:
- **give evidence of governmental contributions to educational training for the specific needs of developing countries**
- **show what research and training facilities are available to developing countries**
- **carry out a needs assessment or have an evaluation mechanism**

European Union issues
- Despite being a signatory to the Convention, the EU lacks the following measures at present:
  - A legally binding instrument regulating liability for damage to the environment at EU level, in compliance with Article 14 of the Convention;
  - A Community Biodiversity Strategy, in compliance with Article 6 of the Convention (currently under development);
  - Guidelines for the management of protected areas and buffer zones in compliance with Article 8 of the Convention;
  - Little progress has been made on modifying economic instruments at the European level which impact on biodiversity at the national level.
- The European Commission representative at the workshop agreed that the EU had in the past been reactive rather than proactive in its actions and recognised the need to coordinate the national efforts and an urgent need to see real progress now. The Commission was working urgently to complete the Community Biodiversity Strategy by mid-1997.
- The EU 5th Environmental Action Plan for 1990-95 required that environmental protection requirements must be integrated into the definition and implementation of other community policies (Article 130R(2)), and that biodiversity objectives be taken into account when developing sectoral policies. A report for the review of the 5th EAP was published by the EEA in 1995.

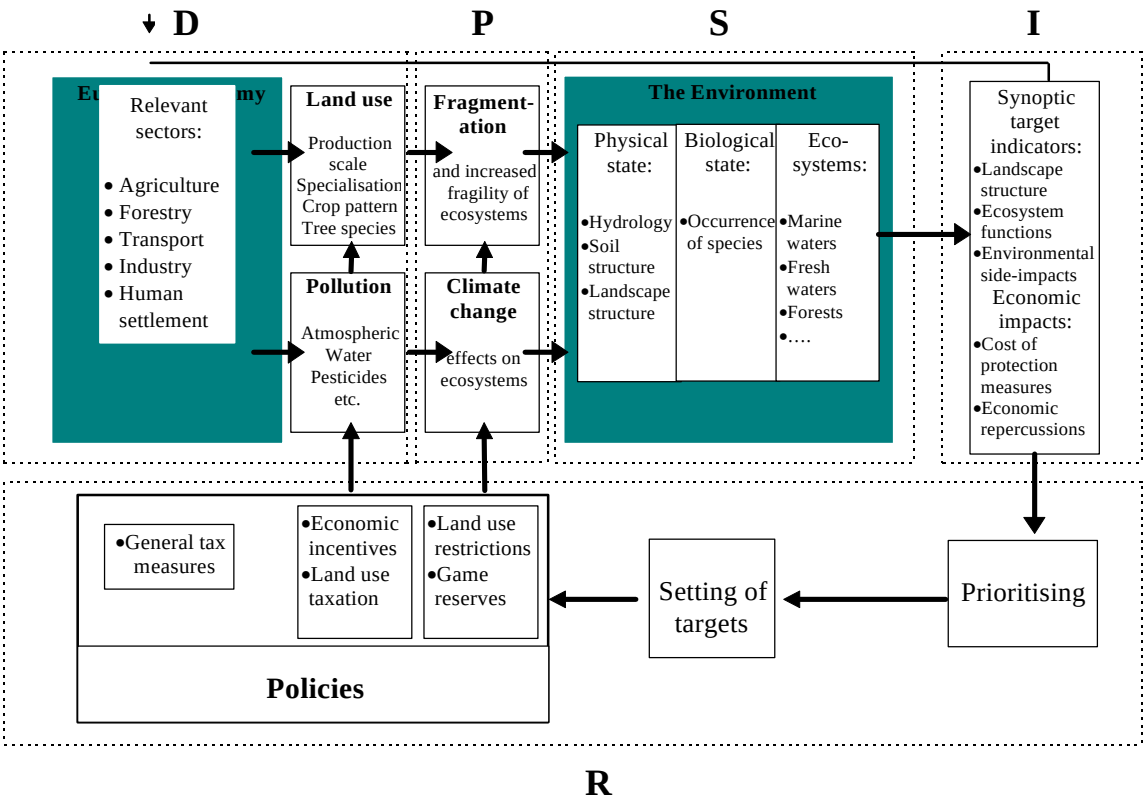
Opportunities for improvement
- **The need for a cross-sectoral approach and public participation is identified as the main cause of problems limiting progress on implementation of the Convention.**
- **Access to genetic resources and national property rights is an area of ongoing international negotiation. Most national strategies make no commitments on these issues.**
- **The international obligations of the Convention are often inadequately covered in national action plans. Little attention is paid to economic activities in developing countries.**

Annex I Integrated Environmental Assessment of Biodiversity

Integrated Environmental Assessment (IEA)[3] is the interdisciplinary process of *identification, analysis and appraisal* of all relevant natural and human processes and their interactions which determine both the current and future state of environmental quality, and resources, on appropriate spatial and temporal scales, thus facilitating the framing and implementation of policies and strategies.

The process of IEA may be described within the "DPSIR" framework, a feedback mechanism based on a chain of causal links from Driving forces, to Pressures, changes in the State of the environment, leading to Impacts on ecosystems and society and finally prompting political Responses. IEA can be applied to a number of environmental issues, such as climate change, acidification, eutrophication and biodiversity. Application of DPSIR to biodiversity is illustrated in Figure 10.

Figure 10: Integrated Environmental Assessment onBiodiversity. Adapted from NERI (1995)



[3] This definition and summary of IEA is taken from a report to EEA 'Recommendations on Strategies for Integrated Assessment of Broad Environmental Problems' (NERI, 1995).

ANNEX 1

The definition of biological diversity according to the Convention is given in Box 2. In terms of political goals, biodiversity has been defined as the sustainable management of the environment, but this linkage needs an interpretation which can lead to quantitatively measurable targets for policy action. Compared to other environmental issues, such as climatic change or acidification, assessment of biodiversity and of changes in the state of the biotic environment is much more difficult to quantify. One suggested approach is to assess biodiversity at the species level. This approach requires the measurement of species biodiversity in several different ways, including species richness, extent of protection of rare species and of naturally species-poor localities. If the objective is to minimise species extinction, a useful indicator would be the change in number of species over time. However, this does not apply in relation to changes in naturally species-poor locations, such as bogs, where an increasing number of species indicates a deterioration of the ecological function value of this type. Furthermore, any kind of species approach would have to consider a spatial dimension, defining species diversity on a local, regional or global scale. Even if one could establish agreement on an objective based on species conservation, it would be extremely difficult and complex to derive or assess alternative policy strategies solely on the basis of such an objective, since almost any action or measure has an impact on species number and diversity of an ecosystem at a given site, depending on its physical and chemical conditions, including impacts resulting from human activities.

These considerations lead to an alternative approach to the species concept; a functional approach based primarily on a classification of the physical environment (geology, climate, soils, topography, etc.) and on monitoring the extent to which ecosystems can exist in a relatively undisturbed state across a range of diversity in the physical environment, including effects of human impacts. The fundamental concept is that the species composition of any region is determined by its physical environment in combination with impacts of human management. The focus is thus set on conserving *"arenas"* of biological activity and diversity, rather than on the temporary occupants of those arenas. This concept constitutes a "critical loads" approach to biodiversity, stating limits of sustainability of ecosystems with respect to changes in the physical environment and other kinds of human impacts. In this context it is important to detect when irreversible changes to the ecosystem may occur, causing permanent changes in biodiversity which cannot be undone. The ecosystem as a functional unit does not necessarily have a predefined spatial dimension, since it can spread over a wide range of area sizes. It is therefore important to apply the ecosystem concept at a hierarchy of spatial resolutions, linked to the different political and administrative levels responsible for monitoring and assessing biodiversity.

When developing target indicators relevant for national and international policy, the "arena" approach has numerous advantages. If ecoregions/ecosystems could be used as a basic classification scheme, the consistency of their definition and application at a global scale would allow effective inter-regional comparison of indicators. At the same time, linkage with a hierarchical classification down to ecotopes at local level would allow local authorities to relate local measures and targets to superior priorities. This would make it possible to assess "local biodiversity" as part of, and within, a global framework.

The outcome of the working groups at the workshop in the light of the IEA concept

- IEA must address the inter-relationship between the driving forces of human economic activities of different sector activities and the resulting pressures such as requirements of space in a region, fragmentation of landscapes, effects on neighbouring biotopes. Indicators related to this interaction need to be developed, as do threshold limits for irreversibility of impacts (critical loads or critical size of habitats);
- IEA of biodiversity has to be achieved at a superior level, where the fragility and change of whole landscapes should be considered. A functional approach based on landscape ecology and ecosystem classification provides the ability to integrate the impact of different sectors on nature, and monitor changes in biodiversity at landscape level. Sustainable management of the whole countryside could be

part of a cross-sectoral implementation of the CBD, taking into account that much of the biodiversity in the EU exists within the agricultural landscape.

- It might be easiest to achieve conservation of biodiversity starting at the local level, applying economic incentives for sustainable development or land use restrictions. This gives rise to the necessity of providing local authorities with a "global view", so they can see local threats and actions within a framework of biodiversity as seen from a national or European level. A first step leading in this direction could be the EEA's ongoing work on an Ecological Regions Map, covering a very broad view of bioclimatic and vegetation zones.

Relevance of IEA to the survey results

In the survey the following question was included in the section headed Article 14 (Impact Assessment and Minimising Adverse Impacts): "Do you have an example of the use of integrated environmental assessment adopted as a result of the Convention?" All except two countries gave a simple "no" response: the remaining two mentioned their Environmental Impact Assessment (EIA) programmes as a form of IEA. The responses to the other questions relating to Article 14 suggest that introduction of procedures on environmental impact assessment has progressed further with respect to EIA on projects than on the environmental consequences of governmental programmes and policies. Reasons may be that impacts of projects have been dealt with for a longer time, and there exists an EU Directive on EIA. This is stressed by the fact that responses primarily mention physical planning and construction projects, where impacts in many cases are bound to a comparably well defined location. The opposite situation may exist in programmes and policies for sectors such as agriculture, utilising the open land. Production within these sectors is run under a framework controlled by different kinds of regulations and subsidies, each having different consequences depending on local biotic as well as abiotic conditions. Regulations defined at a national level may affect land use in various regions differently, depending on local conditions. Contrary to, for example, construction projects, agriculture will adapt to the new conditions by changing land use through intensification or extension of agricultural utilisation of these areas. The impact on biodiversity may be blurred, since it affects the entire landscape, and not only a well defined project area, as with construction projects.

ANNEX 2

Annex II Websites used from the Internet in 1996 and early 1997

A List of Sites on the World Wide Web which have proved useful Sources of Information

Address	Source	Type of information
http://sedac.ciesin.org/pidb/	Consortium for International Earth Science Information Network, USA	Information about international environmental treaties: parties to the treaties
http://sedac.ciesin.org/entri/texts-home.html	as above	Information about international environmental treaties: treaty texts
http://www.iisd.ca/linkages/biodiv.html	International Institute for Sustainable Development, Canada	An unofficial clearing house of information on the CBD including "Earth Negotiations Bulletins" on COPs, SBSTTA, etc.[4]
http://www.unep.ch/bio/conv-e.html	United Nations Environment Programme, Geneva	Full CBD text, and accompanying preface and explanatory leaflet
http://www.unep.ch/bio/press-o.html	as above	Press releases from the UN relevant to the biodiversity convention
http://www.csc.fi/finbin/bin21/bioconvention/bioconv.html	Center for Scientific Computing, Finland	Another source of the full CBD text, in which each Article can be retrieved separately
http://www.biodiv.org/	CBD Secretariat	Clearing House Mechanism under the CBD: entry point to many data sources
http://www.dainet.de/bmu-cbd/home.html	German Clearing House for CBD	Catalogue on URL Internet Addresses - German Clearing House Mechanism under the Convention on Biological Diversity
http://www.sp2000.org	Species 2000 Secretariat	A collection of uniform and validated indexes of species names
http://www.york.biosis.org/	Biosis UK Ltd.	Entry point to taxonomic databases and search tools
http://www.mnhn.fr/ctn/index.html	European Topic Centre on Nature Conservation	Information on ETC/NC projects and organisation
http://www.eea.dk	European Environment Agency	Information on EEA activities and programmes
http://www.agro.stoas.nl/nicbn/default.htm	Dutch Clearing House	Information on Dutch activities
http://www.kbinirsnb.be	Belgian Information on Convention on Biodiversity	Information on Belgian Activities

[4] This source was used as the basis for the section on the 3rd COP, above.