

Streamlining and Harmonisation of Biodiversity Information and Reporting in the NIS

**Report based on a workshop held in Kyiv, Ukraine, 1-3
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1. BACKGROUND

Increasing concern has been expressed over the burden being placed on national governments to provide information for international programmes. For example, with regard to the overall reporting situation on sustainable development, the UN Commission on Sustainable development notes that:

"Member States have over the past few years expressed concern over the increasing number of national reports they are required to submit in compliance with conventions, agreements reached at major conferences and global programmes of action. For all countries the requests constitute a burden, but for countries with limited capacity the burden has become overwhelming. It is also apparent that some of the information requested is duplicative and redundant."
(CSD Update III/5 1997)

Biodiversity reporting follows a similar trend. There are a growing number of international and regional organisations in need of structured, aggregated and easily accessible biodiversity information from the national level. In addition, a number of international biodiversity programmes also request more general environmental and socio-economic information. National authorities in charge of such information regularly find themselves under an increasing pressure of diverse and uncoordinated requests. Due to funding-related and structural reasons, the processing of such requests is often poorly co-ordinated within a country. This results in duplication of effort and lack of efficiency of individual capacity-building initiatives implemented by bilateral and multilateral donors.

This report on *Streamlining and Harmonisation of Biodiversity Information and Reporting in the NIS* has been commissioned by UNEP's Regional Office for Europe as part of their contribution to implementation of the *Pan-European Biological and Landscape Diversity Strategy*. In particular, this work supports implementation of Action 0.2 in the *Action Plan 1996-2000* which aims to *Assist introduction of National Biodiversity Strategies and Action Plans* [as required by the CBD] *in all countries of Europe by the year 2000*.

The objective of the report is to summarise the existing requirements, institutional setting and capacity development assistance of various international programmes with regard to the delivery of biodiversity information from the national level, as well as to make recommendations on how to streamline and harmonise the international programmes' reporting policies in order to facilitate national biodiversity reporting and other reporting activities in the Newly Independent States. The report will serve as a background for a comprehensive proposal for the streamlining and harmonisation of national biodiversity reporting in the NIS.

2. REPORTING POLICIES OF INTERNATIONAL AND REGIONAL PROGRAMMES

National reporting contributes to two separate and important processes. Firstly it provides an outward-looking reporting process which ensures that countries establish baseline data, monitor progress, provide transparency and share experiences and information with others, and indicate areas of priority, progress and constraint. Secondly it promotes an internal, inward-looking process that brings together an array of stakeholders at the national level to review progress, interact, and work towards a common assessment and common purpose.

2.1 Global biodiversity-related treaties

There are five global biodiversity-related treaties, each of which has different reporting requirements. There is currently no harmonisation of approach to the reporting process between the conventions, and each acts independently.

2.1.1 Convention on Biological Diversity

Article 26 of the Convention states that *"Each Contracting Party shall, at intervals to be determined by the Conference of the Parties, present to the Conference of the Parties reports on measures which it has taken for the implementation of the provisions of this Convention and their effectiveness in meeting the objectives of this Convention"*. Decision II/17 of the Conference of the Parties (COP) concerning the form and interval of national reports by Parties, specifies that the first national reports will be due at the fourth meeting of the COP and that they *"will focus on the measures taken for the implementation of Article 6 of the Convention, as well as the information available in national country studies"*. Suggested guidelines are annexed to the Decision.

COP Decision III/9 concerning the Implementation of Articles 6 and 8 of the Convention specifies that the first national reports referred to in COP Decision II/17 should be submitted no later than 1 January 1998, taking into account COP Decision III/25 that the next meeting would take place in Bratislava, Slovakia, in May 1998. The Secretariat is expected to produce a summary of the reports for the COP in May.

Possible further development of the guidelines was discussed in a paper prepared for the third meeting of the CBD Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA): UNEP/CBD/SBSTTA/3/Inf.16 *Further Guidelines for Preparation of National Reports*. This is an issue that has been raised in a wide range of meetings, including the NIS workshop, in particular because of the breadth of issues covered by the convention, the necessity for action to be cross-sectoral, and the fact that this is the first reporting round.

2.1.2 Convention on International Trade in Endangered Species of Wild Fauna and Flora

Article VIII, paragraph 7 of the Convention obliges each Party to prepare periodic reports on its implementation of the Convention and to transmit to the Secretariat an annual report containing a summary of trade in specimens of species included in Appendices I, II and III to the Convention; and a biennial report on legislative, regulatory and administrative measures taken to enforce the provisions of the present Convention. The Secretariat produces *Guidelines for the Preparation and Submission of CITES Annual Reports*, which can be amended with the concurrence of the Standing Committee. No summary or overview report is

compiled. WCMC manages the trade statistics submitted by national management authorities on behalf of the Convention Secretariat, and regularly produces reports based on these statistics. A CITES Information Management Strategy is to be developed before the next Conference of the Parties .

2.1.3 Convention on the Conservation of Migratory Species of Wild Animals

Article VI, paragraph 3 of the Convention calls upon parties that are range states of listed species to inform the Conference of the Parties on their implementation of the Convention. Resolution 4.1 provides an agreed format for those reports (there are in fact *two* formats, one for an *initial comprehensive report*, and one for *updating reports*). Not all countries report, and there is currently no summary or overview report based on the national reports. There are several subsidiary agreements to the convention, which also have a requirement for periodic reports on implementation.

The reporting system of the Convention and its related agreements is currently under review. Resolution 5.4 on the *strategy for the future development of the convention* recommends in its annex (Objective 3) that all Parties should be encouraged to submit reports on national implementation of CMS well before each COP, and an analysis of reports submitted by Parties should be prepared from these and other sources. It is also recommended that a proposal be developed to harmonise the reports from the various agreements, with a view to making the reports more substantive, providing the COP with appropriate information on the implementation of the Convention and making an input to the Convention on Biological Diversity with respect to the conservation of migratory species.

2.1.4 Convention Concerning the Protection of World Cultural and Natural Heritage

While Contracting Parties are expected to provide detailed information on sites nominated for inscription on the World Heritage List, there is no periodic reporting requirement placed on States Party (although there is an expectation that the World Heritage Committee and Secretariat will be kept informed on a number of issues specified in the Convention text and Operational Guidelines).

The Convention is implemented through the *Operational Guidelines for the Implementation of the World Heritage Convention* which are maintained by the Secretariat and endorsed by the World Heritage Committee (the decision making body). The *Operational Guidelines* stress the importance of States Parties putting in place on-site monitoring arrangements as an integral component of day-to-day conservation and management. The States Parties are also *invited* to submit a scientific report on the state of conservation of the World Heritage sites on their territories every five years. States Parties may request expert advice from the Secretariat or the advisory bodies to do this.

States Parties are expected to submit reports and impact studies when circumstances occur or work is undertaken which may have an effect on the state of conservation of a World Heritage site. Reactive monitoring is foreseen in the procedures for the eventual deletion of properties from the World Heritage List, as set out in the *Operational Guidelines* (Paragraphs 48-56). It is also foreseen in reference to properties inscribed, or to be inscribed, on the List of World Heritage in Danger (Paragraphs 82-89).

2.1.5 Convention on Wetlands of International Importance

There are no specific provisions for submission of national reports in the text of the Convention. Recommendation 2.1 of the Conference of the Parties gave authority to the common practice established by the Bureau of submission of national reports prior to the Conference of the Parties. Prior to each Conference of the Parties, the Bureau officially

requests submission of a report, and provides an *outline for national reports* to be followed. Summary reports are prepared for the Conference based on the national reports.

Contracting Parties must provide certain information on sites when they are added to the List of Wetlands of International Importance, and the Bureau periodically requests further information to allow it to review implementation of the Convention. There is also a requirement for Contracting Parties to advise the Bureau of any "change in ecological character" of designated sites (Article 3), and where the threats to a site are of concern the site is added to the *Montreux Record* established by Recommendation 4.8. Resolutions 5.4 and VI.1 identify the procedures that should be followed in notification, and in the addition and removal of sites from the Montreux Record, and these include requests for reports on the site concerned from Contracting Parties.

2.2 Other global agreements

Many other global agreements relevant to the environment also place a reporting burden on national governments. Three of these are discussed briefly here, Agenda 21, the Framework Convention on Climate Change, and the Convention to Combat Desertification. All three were adopted at the Earth Summit in Rio de Janeiro in 1992, and all three are global in nature.

2.2.1 Reports to CSD concerning implementation of Agenda 21

Following a Commission decision taken in 1993 at the first session, national governments and other organisations were invited to submit information to the Commission to allow it to monitor progress in the implementation of Agenda 21. In preparation for its special session to review and appraise the implementation of Agenda 21 held in June 1997, the UN General Assembly requested the preparation of country profiles providing a concise presentation of progress made and constraints encountered in implementing Agenda 21 at the national level (paragraph 13 (b) of resolution 50/113, 20 December 1995).

A common framework for reporting was provided by the CSD Secretariat, reflecting the primary themes related to the social, economic and environmental dimensions of Agenda 21. The reporting framework was made available to countries as an electronic file on diskette. The country profiles prepared are available electronically as well as in hard copy <<http://www.un.org/dpcsd/earthsummit/ga97nat.htm>>. An *assessment of progress in the implementation of Agenda 21 at the national level* was made, based on the 100 country profiles received in time (CSD 1997).

In reviewing the 1997 reports, the Commission has recommended that:

- a) National reporting to the Commission continue;
- b) Rather than preparing new comprehensive reports on an annual basis, countries be requested to update the country profiles on an annual basis, as appropriate;
- c) Countries that have not yet done so prepare a comprehensive country profile; and
- d) Consistent with the proposals for streamlining national reporting requirements (see below), countries need to report separately to the Commission only on those issues on which they do not have to report to conferences of parties of international conventions and other intergovernmental bodies.

2.2.2 Framework Convention on Climate Change

Contracting Parties are required to develop and publish periodic national inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases not covered by the Montreal Protocol. They are also required to report on steps taken or planned relevant

to the objectives of the convention. Articles 4 and 12 of the Convention request Contracting Parties to prepare national communications, and guidelines for their preparation were agreed by the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (Decisions 9/2 and 10/1) and by Decision 3 of the first Conference of Parties (see FCCC/CP/1995/7/Add.1). Decision 2 of the first Conference of the Parties decided that each national communication should be subject to an in-depth independent review to provide a thorough and comprehensive technical assessment of the implementation of the Convention commitments.

Article 4.1 of Convention requests Parties to make available to the Conference of the Parties national greenhouse gas inventories using comparable methodologies. Parties adopted the Intergovernmental Panel on Climate Change (IPCC) *Guidelines for National Greenhouse Gas Inventories* as the standard methodology for reporting their national greenhouse gas inventories (Decisions 3/CP.1 and 9/CP.2). In applying the IPCC guidelines, some Parties have identified methodological issues and problems with respect to estimating and reporting emissions and removals for the land-use change and forestry category. Technical Paper FCCC/TP/1997/5 provides a brief overview of the issues related to estimating and reporting land-use change and forestry emissions/removals raised by Parties in the first and second national communications and in-depth reviews of first national communications.

Copies of the executive summaries of national communications and the in-depth reviews of the national communications are being made available on the UNFCCC web site at <<http://www.unfccc.de/>>.

2.2.3 Convention to Combat Desertification

Article 26 of the Convention requires each Party to report to the Conference of the Parties, through the Secretariat, on measures which it has taken to implement the Convention, and that the COP shall determine the timetable for submission and the format of such reports. Article 22, paragraph 2 (b) of the Convention, requests the COP to promote and facilitate the exchange of information on measures adopted by the Parties, and determine the form and timetable for transmitting the information to be submitted pursuant to Article 26, review the reports and make recommendations on them.

Draft decisions before the first COP (September/October 1997) included recommendations for organising and streamlining the communication of information, and promoting and facilitating the exchange of information on measures adopted by the Parties. Specific objectives of the procedures include ensuring the effective assessment of progress towards achieving the objectives, exchange of information and data among Parties, ensuring that the Committee on Science and Technology and the global mechanism have access to the information and data necessary to carry out their mandates, and ensuring that information on implementation is in the public domain and available to the international community.

2.3 International programmes and projects

Various other international programmes and projects require information from national governments for their efficient implementation. Some of these have a legal basis for their requirements, and others do not.

2.3.1 European Environment Agency

The European Environment Agency (EEA) carries out a range of tasks on behalf of the European Commission, most of which involve collection and management of information (through a network of national agencies and regional co-ordinating organisations), and

facilitating improvement in co-ordination between, and access, to information sources managed by other organisations. The EEA was established by EU Council Regulation 1210/90. The regulation setting up the EEA also established the *European Environmental Information and Observation Network* (EIONET), which comprises *National Focal Points* for each of the countries, *Main Component Elements* (national agencies identified as key information sources relevant to the programme of the Agency) and *European Topic Centres* (institutions/organisations which are directly contracted by the EEA to execute tasks identified in the EEA Multiannual Work Programme). Detailed information on EEA's work can be found on their web site <<http://www.eea.dk>>.

2.3.2 Dobris+3 report

This is the working title for the second pan-European State of Environment report, being prepared by the EEA and EIONET for the 4th Conference of European Environment Ministers to be held in Århus in June 1998. The work is supported by the European Commission (including through the PHARE and TACIS programmes), by UNEP, WHO and other international organisations.

The report will give an overview of the changes in European environmental quality, pressures on the environment and measures taken. Guidelines for data collection have been developed (*Guidelines for Data Collection for the Dobris+3 Report*), and used as a basis for:

- a) Designing information management facilities at the EEA that will aggregate and present the data from various sources.
- b) Capturing data from databases of international organisations and other EEA programmes, and feeding them into the aggregated database.
- c) Developing questionnaires to be sent to national agencies for collecting data not already available through existing international programmes.

In designing the data requirements for the Dobris+3 report, use has been made of the OECD core set of indicators and the CSD Indicators of Sustainable development. As far as possible existing indicators and definitions have been used, as these are used in the ongoing NEAP exercise in Central and Eastern Europe, and in the country environmental performance reviews carried out by the OECD and the ECE.

The process of developing the report is intended to be highly participatory. More than 100 people in 44 countries have been working on the data collection and compilation of the report. Apart from the data supplied by organisations like OECD, EUROSTAT, UN-ECE, International Energy Authority and FAO, 13 questionnaires have been set out from the eight European Topic Centres, the European Forest Institute and the EEA, to gather specific data. The writing of the report also involves individuals from many institutes and organisations in Europe, including World Health Organisation and the European Commission's Joint Research Centre.

2.3.3 Pan-European Biological and Landscape Diversity Strategy

This Strategy, adopted by Environment ministers at their meeting in Sofia in 1995, aims for more effective conservation through better integration of biodiversity and landscape conservation with other sectors. The associated Action Plan includes a major programme for development of a *Pan-European Ecological Network*. There are no national reporting functions built into the strategy and action plan, but the European Centre for Nature Conservation is working with IUCN and others to develop a communications strategy for the *Pan-European Strategy*, and WCMC is working on a information strategy for implementation of the *Pan-European Ecological Network*. Both strategies will include reporting recommendations. Once these have been reviewed by the Pan-European Strategy Bureau, and

by the *Committee of Experts for the Pan-European Ecological Network*, it is likely that nations participating in the programme will be expected to report on implementation in a more structured manner than at present.

2.3.4 Global Environment Outlook

The Global Environment Outlook (GEO) is an ongoing world-wide environmental assessment process. It was initiated in response to the environmental reporting requirements of Agenda 21 and to a UNEP Governing Council Decision of May 1995 requesting production of the first in a new, comprehensive State of the Environment Report series in time for the 1997 UNEP Governing Council. The first report was published and released electronically in 1997 <<http://www.grid.unep.ch/geol/>>.

GEO-1 was developed through a regional and participatory process, with input solicited from an extensive array of sources throughout the world including 20 regional *Collaborating Centres*, UN organisations, and independent experts. Regional consultations organised by the UNEP Regional Offices were used to review the material and information developed. The regional consultations provided valuable suggestions for the improvement and future direction of the Global Environment Outlook series. In later reports, the regional inputs will be strengthened through the further development of the global network of collaborating centres. These centres will be called upon to draw more widely on the work of sectoral and national institutes so that the most accurate and up-to-date information is included from the regional level.

2.3.5 UNESCO World Network of Biosphere Reserves

Biosphere Reserves are sites that have been internationally recognised within the framework of UNESCO's Man and the Biosphere (MAB) Programme. They are nominated by national governments, and must meet a minimal set of criteria and adhere to a minimal set of conditions before being admitted into the World Network. Information must be submitted on each site that is nominated by national government, so that assessment can be made as to whether the site meets the criteria set out in the *Statutory Framework* (Article 4), but otherwise the only reporting requirement is that the status of each biosphere reserve should be subject to a periodic review every ten years, based on a report prepared by the concerned authority, on the basis of the criteria, and forwarded to the secretariat by the State concerned (Article 9).

2.4 Sources of support

Sources of support for implementation of each of these conventions, programmes and projects vary widely, and support for reporting is rarely (if ever) obtainable as an "independent" item, particularly for financial support. There are four potential sources of assistance for national agencies, which apply to any convention or programme requiring reporting:

- sharing experience with other countries and agencies;
- seeking the help and support of the secretariat;
- requesting help and support from those agencies funding relevant programmes; and
- requesting advice of international organisations working in the field.

Two examples are provided, one for one of the agreements discussed above, and the other for one of the many multilateral and bilateral funding sources.

2.4.1 Convention on Biological Diversity

Every Contracting Party to the Convention in Biological Diversity *should* have submitted its national report to the Secretariat. It is therefore late to discuss potential sources of support for the process. However, there are several ways in which Contracting Parties can seek active support for the process:

- *Sharing of experience:* There is clear potential for Contracting Parties to discuss amongst themselves difficulties they are having in completing reports, and to share experience. This can be done bilaterally or at international meetings. The Kyiv workshop is an example of such an opportunity, and was specifically designed with the intention of fostering the sharing of experience. The importance of this approach should not be underestimated.
- *Secretariat:* The Secretariat should have the broadest possible overview of the Convention and the progress being made by Contracting Parties in developing strategies, action plans and national reports. The Secretariat is therefore able to identify who might be able to assist Contracting Parties in their own particular circumstances.
- *Funding programmes:* The GEF, through its three implementing agencies the World Bank, UNEP and UNDP, is supporting development of national strategies and action plans in many countries as part of its *enabling activities* (see below), and hence also preparation of national reports. There is also potential for developing mechanisms to share experience on development of national reports within the context of this programme, possibly through the proposed *Global Support Programme*.
- *International organisations:* There are a number of international organisations with extensive experience of the Convention and its implementation. Several of these are closely involved with issues directly relevant to the first round of national reports, including development of strategies and action plans (IUCN, WRI), development and use of indicators (BIONET, Worldwatch Institute, WRI), and information collection, management and use (UNEP, WCMC).

2.4.2 Global Environment Facility

The GEF provides grants and concessional funding to countries for projects and programs that protect the global environment and promote sustainable economic growth. GEF covers agreed incremental costs of activities that benefit the global environment in four focal areas: climate change; biological diversity; international waters; and stratospheric ozone. Countries are eligible for GEF support if they are eligible for financial assistance through the financial mechanism of either the Climate Change Convention or the Convention on Biological Diversity (CBD), or if they are eligible to borrow from the World Bank or receive technical assistance grants from UNDP through a Country Programme.

The *enabling activities* in biodiversity are intended to support preparation for the design and implementation of effective response measures required to achieve the objectives of the CBD. Funds from this source are already assisting countries to develop national strategies and action plans (Article 6 of the Convention) and to identify key components of biodiversity and those activities likely to have significant effect on these components (Article 7). These activities are very relevant to the development of national reports, and as small component of the funding is available for national reports.

Many countries are experiencing difficulties in implementing their responsibilities for biodiversity planning and management, and rate of implementation of the programmes

supported by the *enabling activities* is slower than expected. As a result, the GEF is considering the development of a *Global Support Programme* for biodiversity enabling activities, which will help national agencies to find the further practical support they require.

GEF projects and programs are managed through three implementing agencies: the UN Development Programme (UNDP), the UN Environment Programme (UNEP) and the World Bank. The GEF Secretariat, which is functionally independent from the three implementing agencies, reports to and services the Council and Assembly of the GEF. Further information on the GEF can be found on their website < <http://www.gefweb.org/gefgraph.htm> >. Key documents include the GEF *Operational Strategy*, and the *Operational Guidelines for Enabling Activities* for both biodiversity and climate change.

3. HARMONIZATION OF INTERNATIONAL REPORTING

The secretariats of international treaties and programmes have a moral obligation to be as efficient as possible in managing their information holdings - much of which will be provided by reports from parties - and as has been said earlier, there are increasingly calls from parties for secretariats to collaborate more closely to gain synergies and to avoid duplication. In summary there are two primary needs to be addressed:

- the need to promote the development of a harmonised national information management infrastructure (which will enable countries to provide information to the secretariats effectively and efficiently, while directly enhancing their ability to implement the treaties); and
- the need for secretariats to be as efficient as possible in the management and sharing of information, and to make it accessible to multiple audiences.

The time is opportune for consideration of harmonised information management amongst the conventions and programmes, to capitalise on current interest and momentum, and rapidly evolving technology before incompatible parallel developments create expensive barriers to future integration. A number of current efforts to do this are discussed.

3.1 CSD Proposals

The CSD Secretary General submitted a paper to the fifth session of CSD on streamlining requests for national reporting (April 1997), reflecting growing concern at the increasing number of national reports that countries are required to submit. This paper lists reporting requirements through to the year 2000 that are relevant to implementation of Agenda 21, identifying 29 separate reports. The paper recommends that *inter alia*:

- a) Information relevant to Agenda 21 should be shared, avoiding requests for countries to provide the same information to more than one UN organisation or treaty secretariat.
- b) Information provided as a result of legally binding instruments should continue to be provided, but should be shared by international agencies wherever possible, so that the country is not asked to provide the same information by another agency.
- c) Information from national reports should be made available electronically on a country by country basis, wherever possible, in a manner that facilitates electronic linkages among the organisations of the UN and convention secretariats.
- d) The reporting calendar should be maintained, and information provided on how the reports relate, so that national governments and treaty secretariats can plan accordingly.
- e) A long term objective should be the move towards a *national sustainable development web site* in each country, which would allow national authorities to post relevant information for whoever needed it, thereby meeting in part their various reporting requirements.

The CSD has taken steps to begin implementation of these recommendations, by making the national reports submitted to the UN General Assembly *Special Session to Review and*

Appraise the Implementation of Agenda 21 (New York, 23-27 June 1997) available online <<http://www.un.org/dpcsd/earthsummit/ga97nat.htm>>.

3.2 UNEP meetings on co-ordination of secretariats of international conventions

Chapter 38 of Agenda 21 recognised the need for effective co-ordination between all agencies involved in implementation of international environmental conventions, requesting that UNEP pay particular attention to:

Further development of international environmental law, in particular conventions and guidelines, promotion of its implementation, and co-ordinating functions arising from an increasing number of international legal agreements, inter alia, the functioning of the secretariats of conventions, taking into account the need for the most efficient use of resources, including possible co-location of secretariats established in the future.[Paragraph 38.15(h)]

This mandate was confirmed by the UN General Assembly Special Session, which confirmed that:

The role of UNEP in the further development of international environmental law should be strengthened, including the development of coherent interlinkages among relevant environmental conventions in co-operation with their respective conference of the parties or governing bodies.

As a result, UNEP has established a regular cycle of meetings on *Co-ordination of Secretariats of International Conventions*, thus providing a forum for information exchange, discussion, agreement and co-operation on issues of mutual interest to participants, including harmonisation of information management and reporting processes.

3.3 Harmonisation of reporting and information management for global biodiversity-related conventions

The secretariats of the five global biodiversity-related treaties need to be more efficient in the ways in which they collect and manage the information they require. Increasingly there are calls from parties for secretariats to collaborate more closely to gain synergies and to avoid duplication. For example, Decision II/13 of the Conference of Parties of the Convention on Biological Diversity:

Requests the Executive Secretary to co-ordinate with the Secretariats of relevant biodiversity-related conventions, with a view to: (a) facilitating exchange of information and experience; (b) exploring the possibility of recommending procedures for harmonising, to the extent desirable and practicable, the reporting requirements of Parties.....

WCMC has worked with the five treaty secretariats and UNEP to develop ideas for increased harmonisation, which might include the following practical steps:

- a) Preliminary consultation between representatives of all interested secretariats and other potential co-operating agencies such as GEF, UNDP, UNEP, the World Bank, and centres of excellence in information management from the regions, to agree on the concepts and scope.

- b) A preliminary study of user-needs and a capacity analysis covering both the needs of the secretariats and the needs and preferences of party countries.
- c) Detailed user-needs study and system design, including elaboration of an integrated data model indicating shared data, and information flows between treaty secretariats and other key agencies.
- d) Development of a joint "handbook" of common definitions and harmonised methods of estimating reportable information elements
- e) Building of a pilot system for decentralised data access and management, with functional facilities for quality control, integration, reporting and evaluation;
- f) Development and full implementation of a distributed inter-convention information system.

WCMC is currently working with the five treaty secretariats and UNEP on a feasibility study, and will be making preliminary recommendations in February 1998 as a means for generating further review and discussion.

In the long term, it is desirable to have a broadly based network of harmonised information systems linking not only the five principal global biodiversity treaties, but also other environmental treaties (*inter alia*, FCCC, Montreal Protocol, International Whaling Convention, International Law of the Sea) as well the major regional treaties (e.g. Berne Convention, Cartagena Convention, Antarctic Treaty, etc).

Other desirable characteristics include flexible linkages to global and regional clearing houses and information repositories (such as the IUCN Environmental Law Centre), linkages to NGO information management networks (such as the Biodiversity Conservation Information System), and utilisation of the harmonised network for raising international awareness and facilitating public participation in national decision making processes.

3.4 Synergies among the Rio agreements

In March 1997, UNDP convened an *expert meeting on synergies among the conventions* at Sede Bogor in Israel, which looked in particular at the four instruments which arose from the UN Conference on Environment and Development, which took place in Rio de Janeiro, Brazil in 1992. The four instruments are the Convention on Biological Diversity, the Framework Convention on Climate Change, the Convention to Combat Desertification, and the Forest Principles.

The meeting noted that the underlying challenge that parties faced in fulfilling reporting requirements was the inadequacy of information systems within many of the countries, particularly developing countries. Poor information systems resulted in *ad hoc* reporting, and the process as a result was more of a burden than it need be. It was agreed that information systems not only allowed countries to have the data necessary for fulfilling reporting obligations, but more importantly the information to better define, guide and assess the progress being made.

Recommendations for international organisations included:

- a) The importance of developing shared reporting schedules and other ways to streamline reporting requirements.
- b) The need to review the information requirements of the four instruments.

- c) The importance of developing improved opportunities for capacity building and training for information management at the national level.

Recommendations for national agencies recognised that:

- a) It is important to develop information systems that provide information for analysis and use in decision making, and not merely to meet reporting requirements.
- b) If dataset development is well planned and co-ordinated, datasets would fulfil the needs of more than one of the international agreements.
- c) Sharing information about data holdings, project activities and so on among the various people working on the instruments in a country is a good first step toward more co-ordinated policy development and joint programming.

3.5 Conference of European Statisticians

The Statistical Division of the UN Economic Commission for Europe organises an ongoing series of conferences which aim to:

- improve national statistics and their comparability;
- promote close co-ordination of the statistical activities in the ECE region, including the demands placed on national statistical offices; and
- respond to any emerging need for international statistical co-operation.

Detailed information on the various activities undertaken by the Conference is available in *Integrated Presentation of International Statistical Work in the ECE Region*, which is regularly updated and approved by the plenary session of the Conference. The annual plenary sessions of the Conference are attended by heads of national statistical offices. These sessions differ from the other 25 or so meetings in the Conference's meeting programme each year, which are attended by experts from national statistical offices and generally targeted at specific issues.

The Conference examines the statistical programmes of ECE, the Organisation for Economic Co-operation and Development (OECD), the European Commission, the International Monetary Fund, the World Bank, the International Labour Organisation, the World Health Organisation and other major international organisations operating in the region, in order to decide on its own programme and make suggestions to the other organisations.

4. REPORTING AND THE USE OF INDICATORS

The establishment of targets, and the use of indicators in assessing the degree to which the targets are being met is an essential part of assessing progress in implementation of any agreement or programme. There are various definitions in current use, but simply put *targets* are measurable objectives, *indicators* are summarised and synthesised information that can be used in assessing or reporting on environmentally important issues, and *benchmarks* are baseline starting points which can be used as a basis for assessing change. Comparison of indicators and targets over time can be used in assessing performance.

Indicator programmes tend to look at indicators of *pressure* on the environment, the *state* of the environment, and the *response* taken (the so-called *PSR* framework). Other programmes extend this to cover *driving forces*, *pressure*, *state*, *impact* and *response* (the *DPSIR* framework). However indicators are developed and grouped, their purpose is to combine information in meaningful ways to facilitate decision making. They also provide an excellent basis for reporting. This section provides examples of current programmes, and identifies where further information on these and other related programmes might be obtained.

Denisov *et al* (1997) also review a number of international indicator programmes, and go on to look at their use in national State-of the Environment reporting, particularly in the Central and Eastern European region. The bibliography of the Denisov report is a valuable source of further information on the available reports on the region which use environmental statistics.

4.1 Global agreements

4.1.1 Convention on Biological Diversity

Decision III/9 of the Conference of Parties encourages all Contracting Parties to *set measurable targets in order to achieve biological diversity and sustainable use objectives*, and Decision III/10 urges Contracting Parties to *identify indicators of biological diversity*. SBSTTA Recommendation II/1 recognised the importance of developing a *core set of indicators for national reports* and proposed a *listing of current approaches to indicator development to be tabled at the next meeting of the SBSTTA and recommendations for a preliminary core set of indicators of biological diversity, particularly those related to threats*.

The Global Biodiversity Forum meeting *Dialogue on Biodiversity Indicators and Implementation Targets* (UN Headquarters, April 1997) was organised to discuss and exchange information on the wide range of national-level biodiversity indicators and targets that Contracting Parties could use as tools for setting goals and measuring progress. Following the GBF meeting, four of the organisers worked further on identifying more specifically how Contracting Parties could use indicators and targets in reviewing implementation of Article 6 of the Convention in particular (development and implementation of national strategies and action plans).

The liaison group on biological diversity indicators reported at the third SBSTTA meeting in September 1997. SBSTTA recommended that work on development of an indicator programme continue, liaising as necessary with other international processes and organisations, and taking account of the results of the *Global Biodiversity Forum*, with the

aim of developing a key set of standard questions to be addressed. The Secretariat is also requested to compile principles for designing national-level monitoring programmes and indicators. These recommendations go forward to the COP meeting in May 1998.

Discussion is still ongoing, but the direction of the discussion can be seen from the following papers:

- UNEP/CBD/COP/4/2 *Report of the third meeting of the SBSTTA* (Recommendation III/5)
- UNEP/CBD/SBSTTA/3/9 *Recommendations for a Core Set of Indicators on Biological Diversity*
- UNEP/CBD/SBSTTA/3/Inf.11 *Implementation of Article 7: Report of the Meeting of a Liaison Group on Biological Diversity Indicators*
- UNEP/CBD/SBSTTA/3/Inf.13 *Recommendations on a Core Set of Indicators of Biological Diversity: background document prepared by the liaison group*
- UNEP/CBD/SBSTTA/3/Inf.14 *Exploring Biodiversity Indicators and Targets under the CBD*
- UNEP/CBD/SBSTTA/3/Inf.15 *Strengthening the First Set of National Reports under the Convention on Biological Diversity: a discussion paper on indicators, targets and other types of information*

4.1.2 Convention to Combat Desertification

In decisions 8/8 and 9/12 of the International Negotiating Committee, the Interim Secretariat was requested to work on the identification of benchmarks and indicators for monitoring implementation of the convention, and to seek input to this through an open-ended consultative process. A report on the work was presented to the tenth session of the International Negotiating Committee in January 1997 (A/AC.241/INF.4), and to the Committee on Science and Technology at the Conference of the Parties in October 1997 (ICCD/COP(1)/CST/3 and ICCD/COP(1)/CST/3/Add.1).

Proposed indicators divide into three categories: awareness building and identification of national priorities; national action plan formation; and national action plan implementation. Indicators in all three categories primarily support action at the national level, and only secondarily provide information for national reporting. Further emphasis was given in the reports to the need to develop good indicators of impact, both of causal factors and actions taken.

A further critical observation concerned the importance of seeing indicators as an aid to decision making, and not as an end in themselves. The process of developing and testing indicators must take as a starting point a good understanding of decision-making processes. In this regard, different user-groups (Conference of the Parties, Regional organisations, national organisations, natural resource users) need different sub-sets of information.

4.2 Programmes and projects

4.2.1 CSD Indicators of Sustainable Development

CSD is advocating the use of a broad-based set of indicators for monitoring progress towards sustainable development. Social, environmental and institutional indicators have to be taken into account, as well as the more commonly used economic indicators, in order to achieve a broader, more complete picture of societal development. As part of the implementation of the work programme on Indicators of Sustainable Development, adopted by Commission on Sustainable Development in April 1995, a working list of 134 indicators and related methodology sheets has been developed and made available for voluntary testing at the national level. The aim of CSD is to have an agreed set of indicators available for all countries to use by the year 2000.

The approach is described in a CSD paper *Indicators of Sustainable Development (ISD) Progress from Theory to Practice* published in May 1997, which is available on the CSD web site <<http://www.un.org/dpcsd/dsd/indi6.htm>>. Various countries have since tested the methodology, and provided comment (also available on the website).

4.2.2 Inventory of European environmental targets and review of sustainability goals

The European Environment Agency has recently launched a study aimed at producing a coherent and comprehensive inventory of all current (inter)national policy targets and sustainability goals with the following two objectives:

- a) *Supporting the policy process.* Target setting is one of the key features of modern green planning, such as the 1992 Fifth EC Environmental Action Programme *Towards Sustainability*. For most of the themes and target sectors, this programme presents tables setting out policy objectives, indicative targets up to the year 2000, the instruments and timetables for achieving the targets and the key sectors from whom action is required. The inventory might be used to evaluate the current intermediate targets on the road towards sustainability, and as a resource for developing for new targets in the follow-up to the fifth action programme.
- b) *Assessing the significance of trends and evaluating the progress of current policies.* Information is required on the endorsed policy targets and (sustainable) threshold and reference values against which trends can be compared. This information is required for Agency's reports, but might also be used by other organisations such as national agencies, universities and interest groups.

This is reported on further in the *EEA Newsletter* issue 12, March 1997, from where this description is taken.

4.2.3 OECD Environmental Indicators Programme

The Organisation for Economic Co-operation and Development (OECD) has established a two-year cycle of environmental data collection, treatment, quality assurance and publication, to support the OECD environmental performance review process. This process was established following an agreement of the environment ministers of OECD countries at their meeting in January 1991 (*Council Recommendation on Environmental Indicators and Information*). The work programme includes not only a *core set* of environmental indicators, but also indicators for integration of environment into other sectors, and environmental accounting. The work programme has resulted in the development of a specification of a framework and terminology, definition of indicators, measurement of indicators, and use of indicators in performance reviews. Various OECD reports describe the indicators and the review process (see sources section) copies of which are obtainable on the OECD website <<http://www.oecd.org>>.

The five Nordic countries have developed *Indicators of the State of the Environment in Nordic Countries* (Nordic Council of Ministers, 1997), building on the OECD *core set* (with some adjustments to meet certain special conditions in the Nordic Countries). This report was prepared as a result of a Nordic Council of Ministers' decision that the state of the Nordic environment would be reported on at regular intervals as part of *The Nordic Strategy for the Environment 1996-2000*, and the approach used may have lessons for other regions.

5. INTERNATIONAL EFFORT TO INCREASE ACCESS TO INFORMATION

This section deals with three related issues, the development of metadatabases and clearing houses that facilitate access to information, the development of networks of professionals in particular fields that work to increase the level and quality of the information available, and the development of organisations that specialise in increasing access to information. In all three cases the primary focus is on better use of the information that is already available, rather than on development of new information. The coverage of each of these sections is not intended to be comprehensive, but serves to illustrate the types of programmes that exist.

5.1 Metadatabases and clearing houses

5.1.1 CBD Clearing-house Mechanism

One of the primary aims of the Convention on Biological Diversity is promotion of international technical and scientific co-operation in the field of conservation and sustainable use of biological diversity, and one of the primary tools for achieving this is intended to be the Clearing-house Mechanism (CHM). At its second meeting, the Conference of the Parties decided that the CHM should be developed starting with a pilot phase for 1996-1997 (Decision II/3), and decided to review the implementation of the pilot phase at its third meeting. In Decision III/4, the Conference of the Parties decided that the pilot phase should be extended until December 1998.

It is anticipated that the CHM will be implemented as an inter-connected and inter-related series of national and thematic clearing houses, each of which will facilitate access to particular categories of information. The CHM will therefore not be a mechanism for collecting information, but a means for better location of information. Development of national CHM nodes will be supported by the Secretariat and other existing CHM nodes, and some GEF funding is allocated to this task. In order to familiarise those involved with the CBD with the potential for information service development, the CHM co-ordinator has organised workshops and an "Internet Café" at successive CBD and SBSTTA meetings.

The CBD Secretariat has taken advice on clearing house development and needs from a range of sources, is currently discussing implementation with various national and international bodies, and is looking at the potential *structure*, *content* and the *capacity building* programmes required for full implementation. This is being discussed in a series of regional meetings. For more information on the CBD Clearing House Mechanism, including reports of meetings, concept papers and links to national implementation, refer to the CHM web site at <<http://www.biodiv.org/chm.html>>.

5.1.2 Environment and Natural Resources Management (ENRM) project

The *Environment and Natural Resources Management* (ENRM) project is one of 11 Global Information Society projects developed at the Brussels Conference of Information Ministers in February 1995. The participating organisations of the ENRM project are all contributing to the development of a prototype metadatabase/virtual library, the *Global Environmental Information Locator Service* (GELOS), the purpose of which is to:

- improve links between catalogues and directories world-wide;
- ensure their accessibility from within developed and developing countries alike;

- facilitate the exchange and integration of data and information about the Earth for world-wide use.

The *Global Information Locator Service* adopts an established international standard for information searching. This standard, ISO 10163 or ANSI Z39.50, was developed primarily in the library and information services communities. It specifies how to express search and return results in all languages. It does not specify how network servers manage records or how clients use records. By adopting this standard, the Global Information Locator Service builds on a vast array of existing resources, and takes advantage of existing software. While it leverages common practice, the standard does not enforce any particular format. More information on these related projects can be found on the ENRM web server at <<http://enrm.ceo.org>>, and the US Geological Survey website <<http://www.usgs.gov/gils>>.

The Environment and Natural Resources Management Project adopted the US *Government Information Locator Service* as a model for the Global Information Locator Service. United States law and policy establish the Government Information Locator Service at the Federal level. Adoption of this approach by other nations, regional organisations, and state governments is well underway. More information on the Government Information Locator Service can be found on their website at <<http://www.usgs.gov/gils>>.

5.1.3 EEA Catalogue of Data Sources

EEA European Topic Centre *Catalogue of Data Sources* was established in order to provide information on who has what information in Europe, in what form, and where, and how to get access to it. In other words, the CDS provides meta-information to the users of environmental information and data, helping them to locate and retrieve relevant sources. The primary goal of the CDS is to support the operation of the EEA and EIONET by providing environmental meta-information. However, the EEA's strategy to serve the wider public is to make the operational information available and create functional links to on-going national, regional and international initiatives. Detailed information can be found on the CDS web site <<http://www.mu.uni-hannover.de/cds/>>.

5.2 Networks

5.2.1 Biodiversity Conservation Information System

International non-government organisations are working to increase collaboration and to increase the efficiency with which information is used. Twelve IUCN programmes and partner organisations working with information relevant to biodiversity conservation have formed a consortium - the *Biodiversity Conservation Information System* (BCIS).

The aim of BCIS is to establish a global alliance and framework for managing data and information on the status of biodiversity and landscapes, their conservation and sustainable use, build on existing data information, expertise and networks. The aim of this alliance will be to:

- ensure improved access to data and information;
- generate information services that aid decision making;
- facilitate access to networks of experts; and
- build capacity in those responsible for collection and management of data and information.

BCIS will draw upon the extensive biodiversity data and information held within the organisations that form the BCIS consortium. It will support compatible methods of managing biodiversity data and information, thus allowing for easy integration of data within

and between regions, and across disciplines (e.g., combining species, ecosystem, and legal information). The result will be a better understanding about the extent and nature of threats to species, habitats, and landscapes, and existing protective and natural resource management mechanisms. Information drawn from the system will help to indicate what measures are needed to mitigate continuing threats to the environment.

BCIS is unique in five important ways:

- it is an open partnership that builds on existing resources and expertise;
- it recognises the concerns of those who contribute data and information (data owners), protecting their rights and interests through a "data custodian" model;
- it seeks to develop information tools and methods that are cost-effective, practical and transferable;
- it supports conservation at all levels, assisting individuals and organisations to independently build data and information management capacity; and
- it seeks to integrate and extend access to its information resources using emerging information and communication technology.

BCIS will increase both the volume and the quality of biodiversity data available to those concerned with biodiversity, from primary researchers and users, to decision makers at the national and international levels. Perhaps more importantly, BCIS will increase the use and value of information, by increasing collaboration between organisations, and reducing the potential for duplication of effort.

Further information can be found on the BCIS web site <<http://www.biodiversity.org>>.

5.2.2 Inter-American Biodiversity Information Network

Although not concerning the NIS region, the development of the Inter-American Biodiversity Information Network (IABIN) may provide useful "pointers" for the development of similar networks in other regions. IABIN is an intergovernmental initiative intended to promote greater co-ordination among Western Hemisphere countries in collection, sharing, and use of environmental information. The proposal to develop IABIN was part of the "Hemispheric Plan of Action" adopted by the leaders of South, Central, and North American nations in December 1996 at the Summit on Sustainable Development. The Action Plan included a commitment that the parties would

seek to establish an Inter-American Biodiversity Information Network, primarily through the Internet, that will promote compatible means of collection, communication and exchange of information relevant to decision-making and education on biodiversity conservation as appropriate, and that builds upon such initiatives such as the Clearing House Mechanism provided for in the Convention on Biological Diversity, and the Man and the Biosphere Network (MABNET Americas) and the Biodiversity Conservation Information System (BCIS), an initiative of nine IUCN programs and partner organisations. (Initiative 31)

Although discussions on implementation are in the early stages, no new institutions or large centralised databases are envisioned, and the focus is on:

- co-ordination of distributed data custodians, and on standards and protocols for describing and communicating biological information;
- identification of priorities regarding the types of data most in need, and development of technical approaches and collaborative efforts to address key gaps; and
- gaps in technical resources (computers, Internet connections) for obtaining and using biodiversity information in decision-making.

It is hoped that regional and hemispheric consensus on these priorities can focus both government and private investment in collection and distribution of biodiversity information, and in the infrastructure needed to do so efficiently, in ways that individual country or non-governmental efforts cannot. The underlying principle behind these focal areas is that IABIN should not supplant any existing information or networking efforts; rather, it should identify actions that increase the interoperability of current efforts, and strengthen, link, and complement existing activities.

Further information can be found on the IABIN web site < <http://www.nbii.gov/iabin/> >.

5.3 Organisations specialising in information management and information services

A range of organisations offer information services, and provide technical support in the manner described here for the World Conservation Monitoring Centre and the United Nations Environment Programme. Each of these organisations works as part of a network of collaborating organisations and individuals, without whom the services described could not be delivered.

5.3.1 World Conservation Monitoring Centre

The mission of WCMC is to increase access to information in order to improve the use of biodiversity-relevant information in decision making. Specifically WCMC:

- facilitates access to information collected by networks of which it is a part (see the discussion on BCIS above);
- develops other information services that improve access to internationally available information; and
- assists organisations to develop their own capacity to manage information.

For example, WCMC works with IUCN as a data management partner for the compilation and dissemination of information on both threatened species, and protected areas of the world. Based on these datasets and on others managed in collaboration with other organisations, WCMC can provide information that supports national priority setting. This might include identification of priority species, comparisons with neighbouring countries, illustrations of regional priorities, and so on.

WCMC is working with a number of organisations to develop information services that improve access to information on the Internet. For example, the *World Heritage Information Network* <<http://www.wcmc.org.uk/whin/>> developed in collaboration with the World Heritage Centre is a targeted search tool for locating information on World Heritage sites. The *Protected Areas Virtual Library* <<http://www.wcmc.org.uk/dynamic/pavl/>> is a facility to aid location of websites which are valuable sources of information on protected areas.

Finally, WCMC offers training in biodiversity information management, and is collaborating with a range of organisations to help them build their own capacity for information management. WCMC's philosophy in information management is described in the *Guide to Information Management* developed in collaboration with UNEP as part of the GEF-sponsored *Biodiversity Data Management* project.

5.3.2 United Nations Environment Programme

The UNEP *Environment and Natural Resource Information Networks* project aims to improve access to environmental information for decision makers within particular regions through:

- strengthening existing national and regional environmental information networks

- streamlining environmental reporting by co-operation and collaboration with other international initiatives
- facilitating public access to environmental data and information by encouraging institutions to disseminate data more openly and widely
- popularising environmental information

The mission of the UNEP *Global Resource Information Database* (GRID) is to provide timely and reliable geo-referenced information and access to a unique, international Geographical Information System (GIS) service, for addressing environmental issues at global, regional and national levels, in order to bridge the gap between scientific understanding of earth processes, and sound management of the environment. This is achieved through working to:

- enhance availability and open exchange of global, regional and national geo-referenced environmental data sets, in digital and other formats;
- provide UN and other governmental bodies with access to improved environmental information and data management technologies; and
- enable all countries and regions of the world to make use of GRID-compatible technology for resource management, environmental assessment, State-of-Environment reporting and informed decision-making.

UNEP/GRID-Arendal provides preparatory assistance to countries with Economies in Transition in Central and Eastern Europe to formulate project proposals in support of national and international environment assessments. The programme aims to:

- establish co-operative agreements with national institutions undertaking environmental assessments;
- support regional programmes dealing with environment issues of transboundary and global concern;
- in partnership with participating countries and institutions, develop strategies to strengthen national information networks compatible with those of institutions such as UNEP and the European Union whose main goal is to provide the information needed for environmental management;
- help participating Governments access international environmental databases held by UNEP and other UN agencies and regional organisations; and
- encourage participating institutions to distribute environment data as widely as possible, and enable them to contribute information and products about the environment to the international community.

The GEF-funded *Biodiversity Data Management* project was initiated by UNEP and WCMC to facilitate the building of national capacity for biodiversity data management and exchange in the context of the Convention on Biological Diversity (CBD). Focusing on developing countries and initially on the biodiversity data compiled in the country studies, it aims to mobilise these data as a key instrument in building enhanced national capacity for planning biodiversity strategies and actions for conservation and sustainable use. The project provided for the development of a series of guidelines and resources to support efficient information management at the national level, and then supported ten countries in conducting national *institutional surveys* to assess existing capability for data management, and preparation of plans for management and application of biodiversity data.

6. REPORTING IN THE NEWLY INDEPENDENT STATES

Each national participant at the Kyiv workshop was asked to introduce the state of biodiversity reporting and the general biodiversity situation in their country. Their presentations are summarised below.

In addition, UNEP have recently published a review of environmental reporting in Central and Eastern Europe (Denisov *et al*, 1997), which reviews selected publications and frameworks. The purpose of this study was to compile an overview of approaches to state of the environment reporting in the region, including all of the "Newly Independent States" of the former Soviet Union. The study focused on national State of the Environment reports, and a comparison between the indicator frameworks used for these reports and recommendations of a number of international organisations (OECD, UNCSD, EEA). Some of the conclusions of the UNEP report are drawn on in the later sections of this report.

6.1 Workshop reports by country

6.1.1 Azerbaijan

To date Azerbaijan has not completed formal ratification of the CBD, although the parliament is expected to ratify shortly. Ratification will push the process of development of the national report on biodiversity, and expert and financial support will be requested of the Secretariat international organisations.

A section on biodiversity within the National Environmental Action Plan (NEAP) already characterises the current status of biodiversity protection, and defines a list of priority actions and projects which could be realised with the assistance of international organisations. The plan has been approved by the Government, and the World Bank has agreed to consider several projects.

A national committee on the *Strategy for Biological and Landscape Diversity of Azerbaijan* has been established in the context of the *Pan-European Biological and Landscape Diversity Strategy*, and the Committee has already initiated development of a national strategy and action plan. Priority actions include the creation of new protected areas, and the establishment of transboundary protected areas (with Georgia and Russia). An *Action Plan for Protection of Wetlands of Azerbaijan* and an *Action Plan for Protection of Rare and Endangered Species of Fauna and Flora of Azerbaijan* have also been drawn up.

Implementation of many of the proposed actions, and the development of adequate reporting procedures requires both financial support and expert assistance.

6.1.2 Armenia

Biodiversity conservation in Armenia is difficult at present because of the complicated socio-political and ecological situation. The depletion of natural bioresources, already affected by severe earthquakes in 1988, has worsened in recent years, and ecosystems have become degraded irreversibly. This is exacerbated in areas close to borders as a result of transport and energy blockades.

Armenia ratified the Convention on Biological Diversity in 1993, but a national report has not yet been completed because of a lack of financing. However, from October 1997 the GEF

has been supporting the development of national strategies and action plans, and development of a pilot national report. Working groups have now been created, and the first stage - the analysis of current status of biodiversity in Armenia - is in the progress. The next stage will be evaluation of the current situation on biodiversity conservation, and this will be followed by definition of major measures required for conservation and sustainable use of biodiversity of Armenia.

6.1.3 Belarus

Belarus ratified the Convention on Biological Diversity in 1993, an action which led to improved environmental protection in the country, and new environmental legislation in several areas. A Commission on Biodiversity Issues was set up by resolution of the Government, the Ministry for Natural Resources and Environmental Protection is responsible for co-ordination of measures for implementation of obligations, and the National Academy of Sciences provides scientific support.

A National Strategy and Action Plan for Conservation and Sustainable Use of Biodiversity of the Republic of Belarus was developed in collaboration with all interested ministries and institutions, and approved by the Government in June 1997. It was decided to avoid strict recommendations for ministries and institutions, due to difficulties in the economic situation in the country. Ministries and institutions are expected to develop measures aimed at realisation of the National Action Plan independently, based on their financial capabilities. A part of these measures will be financed from the extra-budgetary fund for environmental protection.

It is important to emphasise that all activities implemented to date have been financed exclusively from the extra-budgetary fund for environmental protection, without assistance from international organisations. However, the possibility of GEF assistance is under consideration.

Various information materials were prepared in 1997 at the request of the CBD Secretariat, but a full national report has yet to be completed. In fact for several articles of the Convention it is impossible to provide information, and provisions of a number of articles need clarification. Hence workshops to look at issues of harmonisation of information on biodiversity are extremely useful.

6.1.4 Kazakhstan

In the near future it is planned that Kazakhstan will become Party to a number of international conventions, including the Ramsar Wetlands Convention.

National Environmental Reports of various kinds are developed periodically. It is anticipated that in finalising the national report for the CBD, the Kazakhstan will follow the example of the Ukrainian.

6.1.5 Moldova

The ecological situation in the country is extremely difficult as a result of the high economic development of the territory (90%), and the relatively high population density compared with other countries in the region (25 per square kilometre). Environmental bodies therefore pay close attention to the issue of public awareness, and radio messages concerning environmental conditions are constantly broadcasted.

Agricultural development is high, and although the country is situated in three different natural climate zones, only 6-8% of the country is in a natural state. Soil pollution resulting

from agricultural pesticides reduces the area of value to wildlife drastically. The economic situation is complicated, and affected by the forthcoming privatisation process.

It is hoped that the area of protected natural territories will double by the year 2000 to 2.8%, through increasing the area of the existing five reserves and creating a national park. Meanwhile environmental agencies strive to protect plants of the "Red Book", particularly the wild peony and meadow species. A National Environmental Report was developed and published in 1995, but a national report on biodiversity conservation has not been prepared yet.

6.1.6 Turkmenistan

The Convention on Biodiversity was ratified by Turkmenistan in 1997. At the state level the issues of biodiversity conservation are co-ordinated by the Ministry for Nature Use and Environmental Protection of Turkmenistan. An analysis of current status of biodiversity and a package of proposals on biodiversity conservation in Turkmenistan was developed with the financial support of the McArthur Fund and the Russian office of the World Wild Fund for Nature, in the framework of the project *Urgent Measures for Biodiversity Conservation in the Central Asia*.

The Ministry co-operates closely with the NGO Ecological Club "Satena", which developed a draft *National Strategy for Biological Conservation and Landscape Diversity in Turkmenistan*. The public conference *Biological Diversity in Turkmenistan: approaches to study conservation*, held 1997, was a first radical step towards realisation of the National Strategy. In the near future development of an emergency action plan for the protected areas of Turkmenistan is planned, along with a feasibility study for financial support.

Currently the National Report on Biodiversity Conservation has not been developed due to lack of financial support.

6.1.7 Ukraine

The Ukraine has ratified the Convention on Biological Diversity, and the national report has been prepared and submitted. In the course of its development relevant experience from several countries was taken into account, plus technical information from the Secretariat. Emphasis was given, however, to the particular situation of the Ukraine, and problems dealing with changes in the environment which occurred in the last century and in the nearest past.

The report is a pilot study of biodiversity conservation in Ukraine, with emphasis put on the need to show significant changes in the environment, to highlight key issues, and to show current status and prospects. At least 50 representatives of central bodies of state executive power of Ukraine, research and NGOs were involved in the work, which was published with the support of the GEF. without this support it would have been impossible to successfully finish the work.

In general, the report is more of ascertaining style rather than prognosticating. This reflects the general status of environmental science in the country, where fundamental models of development have, in many cases, not been developed even conceptually. So, the problem of conservation of biodiversity was quite new for many researchers, specialists of ministries and institutions.

The great obstacle to qualitative implementation of obligations under the Convention by Ukraine was and still is lack of finances. Difficulties in the economy do not allow the

realisation to a large extent the excellent potential and new tools for conservation and restoration of biodiversity, hence the continued need for international assistance.

Release of the report coincides with increased activity in the sphere of international activities on conservation of the environment, including: active reforming of national environmental protection activities; development of a national programme for conservation of biodiversity; strengthening information networks; forming relevant working groups; and strengthening links with the convention.

The Report was produced by using advanced information technologies and is available through the Internet <http://www.freenet.kiev.ua/ciesin/N_97/eng/index.htm>.

For practical reasons, it is hoped that the workshop will recommend the development of comparable information on various issues such as ecological corridors, "hot spots", conditions of migrating species, and so on in their reports. This requires a concept for protocols of exchange of such kinds of information.

Following the latest EU initiatives including development of the pan-European status report "Dobris+3", it is necessary to take into consideration that during further development of reports on conservation of biodiversity, information received from the NIS will be of extreme importance concerning, for example, conditions of forestry, pollution of soils, data about redistribution of environmental protection funds in regions, involvement of NGOs in the process, recommendations concerning financing in the sphere of conservation of biodiversity, and so on.

It is difficult to overestimate the importance of developing improved working links between national authorities and international centres for environmental reporting, to ensure that the best possible information is available for development of programmes, and generally for decision making in the biodiversity and environmental arenas.

6.1.8 *Uzbekistan*

The National Strategy and Action Plan for Conservation of Biological Diversity has been prepared and submitted to the Cabinet of Ministers for approval. Unfortunately, the National Report on Biodiversity Conservation has not been developed yet.

There are currently nine state reserves and two national parks in Uzbekistan, covering 4.6 % of the country. It is planned to increase the protected areas in the country by 10%, with new laws on flora and fauna which, when approved, which will lead to the establishment of a series of new reserves. Also, the creation of hunting reserves was successfully introduced for the purpose of rearing hunting birds and animals. Protection of rare species of birds on the border territories is subject to co-ordination with Kazakhstan.

7. CONCLUSIONS AND RECOMMENDATIONS

Systematic reporting of information relevant to biodiversity conservation and sustainable use requires a well organised institutional set-up and sophisticated systems for data and information management and dissemination. However, most countries of the former Soviet Union face a serious lack of resources to manage large amounts of data in a manner which meets modern standards.

The goal of the Kyiv workshop was to assist the Newly Independent States in their efforts to co-ordinate internationally relevant biodiversity information gathering, and in applying modern methodology and technology to meet reporting requirements of various international conventions and programmes. Representatives from eight countries participated in the three-day meeting, which concluded with the identification of the most obvious shared problems in the region with respect to reporting biodiversity information.

The extent to which participants felt that they had learned from the workshop demonstrates clearly how important it is to make such meetings happen. Its results are relevant for not only the NIS, but also for the CBD Secretariat in particular and the international community in general. In brief, the three days clearly demonstrated the following:

- Methodology for developing national reports has not been perfected in the NIS as yet, but development of a common methodology would undoubtedly ensure the necessary compatibility of reports and probably also have a positive influence on the use of information for decision making.
- The nature of problems encountered in trying to develop national reports is very similar in the various countries of the region, leading to the conclusion that rapid development of a common methodology and establishment of mechanisms for exchange of experiences are both urgent.
- Other common problems for the NIS concern financing and insufficient supply of equipment, training of experts and lack of close contacts with the centres of collection and processing of biodiversity information, such as CBD, UNEP, IUCN and WCMC.

Specific recommendations made by workshop participants follow, but before that are a series of compiled recommendations on national reporting and information management, guiding principles in requesting and producing national reports, streamlining requests for national reports, and harmonisation between international conventions and programmes. These arise from the earlier review sections.

7.1 National reporting and information management

In implementing the conventions and programmes described in earlier sections of this report, the primary concern should not be the reporting process *per se*, but achievement of the objectives of the convention or programme. However, one of the underlying challenges faced by national governments is the inadequacy of information systems within many countries. Poor information systems inevitably result in *ad hoc* decision-making and reporting. As a result, the national reporting process is more of a burden than it need be.

In order to achieve the objectives of the various programmes and treaties:

- a) National organisations should be seeking to improve the ways in which they manage information, and the ways in which they use that information in their decision-making processes.
- b) The development of databases and dataset should be managed in such a manner that they fulfil the needs of more than one programme and treaty, both in terms of meeting the defined objectives, and reporting.
- c) Steps should be taken to share information about data holdings, project activities and so on among the various people working on the instruments and programmes in a country, as a good first step toward more co-ordinated policy development and joint programming.

It is important that national information management infrastructure be developed as efficiently as possible - to serve both national strategic and operational needs, as well as the reporting obligations to all the relevant treaties. Mechanisms for doing this are described in a range of widely available publications, and expert support is available through organisations such as UNEP and WCMC.

- d) International organisations should support the development of effective integrated information systems at the national level.

A long term objective should be the move towards maintenance of subsets of the information on national websites in each country, which would allow national authorities to post relevant information for whoever needed it, thereby meeting at least in part their various reporting requirements. The onus would then be on those requesting national reports now to locate and use the information already made available on a website by each country.

- e) International organisations with experience in development of web-based information services should assist national governments in developing "national reporting" web sites.

7.2 Guiding principles in requesting and producing national reports

International organisations, including treaty secretariats, need to recognise the reporting burden that they place on nations, and act accordingly. In fact, given that countries vary considerably in size, biodiversity, capacity and capability, it is often very difficult to provide a precise definition of exactly what each country should provide in national reports, however the following ten *Guiding Principles* may assist both secretariats and government agencies in identifying how to report on what.

- a) Base the report on information that is required already by the national focal point to ensure that the country is meeting the commitments made in acceding to the Convention or joining the programme.
- b) Ensure that the report covers the priority areas identified by appropriate international decision making bodies such as conferences of parties to conventions.
- c) Cover what is relevant to implementation of the convention or programme, not just what is being done as a result of accession or participation.
- d) Emphasise progress in development and implementation of strategies and action plans.

- e) Summarise current status and trends, use and threats, and progress in development of programmes to evaluate and monitor these.
- f) Avoid repeating information that exists in documents and reports already available, which can be referred to or appended.
- g) Concentrate on measurable progress since the last report, and identify the progress that is expected before the next report is due.
- h) Use indicators to show progress in achieving targets set in strategies and action plans, and in previous reports.
- i) Emphasise information that will help other nations in their implementation of the convention or programme, in particular both good practice and bad experience.
- j) Design reports that are useful for multiple purposes with minimal modification, for example as material for journalists, or education.

7.3 Streamlining requests for national reports

While harmonisation of information management and reporting by conventions and programme secretariats is the ideal, it will take time to achieve. Meanwhile steps should be taken to reduce the burden on nations and to increase use of the information requested and submitted.

- a) Information provided in national reports should be shared by international organisations so that the country is not asked to provide the same information by another agency.
- b) Information from national reports should be made available electronically on a country by country basis, in a manner that facilitates electronic linkages among international organisations and allow wider access.
- c) Reporting calendars should be developed and maintained, and information provided on how the reports relate, so that national governments and treaty and programme secretariats can plan accordingly.
- d) As countries move towards having their reports available on the Internet, opportunities need to be developed by international organisations for increasing the interlinkage between the reports for different conventions, programmes and countries, and opportunities for search across the full "family" of reports.

7.4 Harmonisation between international conventions and programmes

Several fundamental principles can be identified which drive the process for ensuring the future harmonisation of reporting and information management. In particular:

- a) Reporting structures and schedules should be harmonised to minimise the burden on national governments.
- b) National governments should report required data only once, and only have to provide information which is directly relevant and necessary to implementation of a specific programme or treaty.

- c) Secretariats should be efficient and transparent in information management, sharing common information wherever possible, and their information management infrastructure should be in harmony with and facilitate the information management regimes of national governments.

To achieve these principles an overall harmonised information systems infrastructure is required, which meets the needs of both treaty and programme secretariats, and national governments. Components of such an infrastructure would be:

- a harmonised high level data model covering all the related treaties and programmes
- standards for data and guidelines for national reporting
- synchronised reporting schedules
- agreed information interchange and sharing modalities
- compatible technology for information management
- established linkages with financial mechanisms
- established linkages with custodians of reference and background information

There are benefits of harmonised reporting and information management to both national governments and secretariats. For national governments the benefits are:

- increased efficiency in national information systems
- reduced cost of meeting reporting requirements of treaties and programmes
- improved feedback from secretariats
- comparability with other countries
- increased ability to develop and use integrated indicators of sustainability
- improved ability to initiate actions in support of treaty and programme commitments

For secretariats the benefits are:

- improved efficiency of information management and use
- reduced cost of information systems development
- ability to co-ordinate programmes of work through information sharing
- improved information quality, consistency and transparency
- improved linkages with international environmental monitoring agencies, major data custodians, and regional treaties
- improved image and credibility

In addition, there are improved opportunities for capacity building and training for information management at the national level.

It is essential therefore that:

- a) Treaty secretariats and programmes continue to explore actively mechanisms for improved harmonisation in information management and reporting, and that other international organisations continue to support this process.
- b) National governments continue to put pressure on treaty and programme secretariats to harmonise information management and reporting processes, through the appropriate decision-making fora.

7.5 Conclusions and recommendations of the Kyiv workshop

The national participants of the workshop drew together a range of conclusions from the discussions over the two days, and made several recommendations. The following is a summary of the translation from Russian.

7.5.1 Conclusions

The main obstacles in organising and conducting national reporting in the NIS are:

- duplication of effort as a result of simultaneous and overlapping requests for information and reports by regional and international organisations
- lack of experience in reports of this kind, combined with a lack of clearly defined guidelines for content of national report
- inadequate computer facilities for effective development and distribution of information
- lack of mechanisms for ensuring compatibility of information on biodiversity at regional and international levels
- insufficient mechanisms for co-ordinating and exchanging experience on information and reporting on biodiversity
- inadequate state financing, and a lack of essential domestic and external extra-budgetary support
- problems associated with timely receipt of convention working papers and the language of the papers received (which are seldom in Russian)

The most effective assistance that could be provided to NIS by convention secretariats and international environmental organisations would be provision of information and guidance concerning:

- co-ordination of national reporting at both national and international levels
- co-ordination of formats, parameters and structure of national reports
- assessment of information needs of different user-groups to ensure more effective provision and use of information
- training of specialists regularly involved in development of national reports
- arrangements for exchange of information and experience
- assessment of needs for improved information technologies

7.5.2 Recommendations

a) Co-ordination of activities on development of information and reports on biodiversity

When a number of institutions and departments are responsible for collection and management of information on biodiversity, and for preparation of reports for conventions and international programmes, it would be expedient to co-ordinate collection and transfer of information through interdepartmental working groups and expert groups. This must involve the definition of conditions for transfer of information between the institutions.

To request the Secretariat of the Convention on Biological Diversity to undertake the following measures:

- to propose to Contracting Parties that they appoint a national co-ordinator, who would be responsible for liaison with the Secretariat and who would receive all information materials
- to check and enhance the effectiveness of transfer of working materials to national co-ordinators, thus strengthening the contribution that the Contracting Party can make at the international level

b) Users of information on biodiversity

Governmental and non-governmental organisations and individuals are all users of information on biodiversity in the NIS. Countries should define conditions for information access by the different groups of users, taking into account the financial potential and different mechanisms for covering the expenses spent on developing information. This could be achieved through:

- presenting value-added services and data
- using means of programmes for economic assistance

c) Harmonisation of formats, parameters and structure of reports on biodiversity

The existing approaches to development of the environmental reports should be extended to include detailed analysis of the environment, and specific information on biodiversity (protection of species ex-situ and in-situ, ecological corridors, problem territories, migrating species, strictly protected areas and objects).

The Contracting Parties in the region are recommended to co-ordinate a minimal common set of subjects and parameters in reports on biodiversity, with the purpose of ensuring information compatibility.

Participants request that the Secretariat of the Convention on Biological Diversity develop more detailed methods and guidelines for national reporting on biodiversity for consideration by the Conference of Parties. The NIS are prepared to submit proposals on the structure and content of reports, as it would be expedient to use existing schemes and formats, and to take account of the experience of developing pilot NIS reports.

d) Study of needs and enhancement of the Parties' capacity

Where possible, international organisations should provide technical and financial assistance, particularly in the following areas:

- training specialists on development of reports on biodiversity
- computer facilities for data management and information exchange (GIS, Internet)
- development of electronic versions of reports

e) Exchange of information and experience

The Secretariat of the Convention on Biological Diversity and other international organisations are recommended to use the NIS mass media (for instance the journal *Desertification Problems*) to inform the public of their activities relevant to NIS territories.

Participants are recommended to more comprehensively use communication channels and capacities of national co-ordinators of UNEP programs on the NIS territories.

8. SOURCES

In compiling this report, material was drawn from a number of documents, several of them either unpublished, or available only on the Internet. Use of material from all of the following sources is acknowledged.

8.1 Papers

Cohen, S., Waugh, J., Ambramowitz, J. Bryant, D. 1997. Exploring Biodiversity Indicators and Targets under the CBD. UNEP/CBD/SBSTTA/3/Inf.14

Commission on Sustainable Development 1997. Indicators of Sustainable Development, From Theory to Practice: Indicators of Sustainable Development.
<http://www.un.org/dpcsd/dsd/indi6.htm>

Commission on Sustainable Development 1997. Assessment of progress in the implementation of Agenda 21 at the national level. E/CN.17/1997/5, 18 March 1997.

Commission on Sustainable Development 1997. Proposals for the streamlining of requests for national reporting. E/CN.17/1997/6, 18 March 1997.

Convention on Biological Diversity 1997. Report of the third meeting of the Subsidiary Body on Scientific, Technical and Technological Advice. UNEP/CBD/COP/4/2, 11 September 1997. (Recommendation III/5)

Convention on Biological Diversity 1997. Recommendations for a Core Set of Indicators on Biological Diversity. UNEP/CBD/SBSTTA/3/9

Convention on Biological Diversity 1997. Implementation of Article 7: Report of the Meeting of a Liaison Group on Biological Diversity Indicators.
UNEP/CBD/SBSTTA/3/Inf.11

Convention on Biological Diversity 1997. Recommendations on a Core Set of Indicators of Biological Diversity: background document prepared by the liaison group.
UNEP/CBD/SBSTTA/3/Inf.13

Convention to Combat Desertification 1997. Draft decisions for consideration by the conference of the parties. E. Procedures for the communication of information and review of implementation (decision 9/9): agenda item 7(f) 30. ICCD/COP(1)/2, 10 June 1997.

Convention to Combat Desertification 1997. Report on ongoing work being done on benchmarks and indicators. ICCD/COP(1)/CST/3.

Convention to Combat Desertification 1997. Supplementary report on work on benchmarks and indicators. ICCD/COP(1)/CST/3/Add.1.

Denisov, N.B., Mnatsakanian, R.A., Semichaevsky, A.V. 1997. Environmental Reporting in Central and Eastern Europe: A review of selected publications and frameworks. Central

European University/United Nations Environment Programme. CEU/50-97.1.
UNEP/DEIA/TR.97-6.

Framework Convention on Climate Change 1997. Methodological issues: synthesis of information from national communications of Annex I parties on sources and sinks in the land-use change and forestry sector. Technical Paper FCCC/TP/1997/5, 20 November 1997.

Global Biodiversity Forum 1997. Strengthening the First Set of National Reports under the Convention on Biological Diversity: a discussion paper on indicators, targets and other types of information. UNEP/CBD/SBSTTA/3/Inf.15.

GEF 1996. Operational Strategy. Global Environment Facility, Washington, DC.

GEF 1996. Operational Guidelines for Enabling Activities: Biodiversity. Global Environment Facility, Washington, DC.

GEF 1996. Operational Guidelines for Enabling Activities: Climate Change. Global Environment Facility, Washington, DC.

INCD 1996. Report on ongoing work being done on benchmarks and indicators. International Negotiating Committee for the elaboration of an international Convention to Combat Desertification. A/AC.241/INF.4.

Nordic Council of Ministers 1997. Indicators of the state of the environment in the Nordic countries. *TemeNord 1997:537*. Nordic Council of Ministers.

OECD 1993. OECD core set of indicators for environmental performance reviews. *Environment Monographs No 83*. OECD/GD(93)179. Organisation for Economic Co-operation and Development, Paris.

OECD 1994. Environmental indicators: OECD core set. Organisation for Economic Co-operation and Development, Paris.

OECD 1997. OECD environmental performance reviews: A practical introduction. OECD/GD(97)35. Organisation for Economic Co-operation and Development, Paris.

UNDP (1997) Expert meeting on synergies among the conventions, Sede Boger, Israel, March 17-20, 1997. UNEP/Coord.7/7 1 July 1997. Restricted Distribution.

UNEP (1997) Co-operation and co-ordination of the work of environmental conventions and their secretariats. UNEP/Coord.7/15 4 July 1997. Restricted Distribution.

WCMC 1996. Integrated Information Management for Biodiversity-related Treaties: Towards a Harmonised Information Infrastructure. WCMC Discussion Paper.

WCMC 1996. *Guide to information management in the context of the Convention on Biological Diversity*. United Nations Environment Programme, Nairobi, Kenya.

WCMC 1997. Further Guidelines for Preparation of National Reports. UNEP/CBD/SBSTTA/3/Inf.16, 10 August 1997.

8.2 Web sites

Biodiversity Conservation Information System	http://www.biodiversity.org
CBD Clearing House Mechanism	http://www.biodiv.org/chm.html
CITES	http://www.wcmc.org.uk/cites
Convention on Migratory Species	http://www.wcmc.org.uk/cms
Convention to Combat Desertification	http://www.unccd.org/
CSD Indicators of Sustainable Development	http://www.un.org/dpcsd/dsd/isd.htm
Earth Summit papers	http://www.un.org/dpcsd/earthsummit
EEA Catalogue of Data Sources	http://www.mu.uni-hannover.de/cds/
Environment and Natural Resources Management project	http://enrm.ceo.org
European Environment Agency	http://www.eea.dk
Framework Convention on Climate Change	http://www.unfccc.org
Global Environment Facility	http://www.gefweb.org/
Global Environment Outlook	http://www.grid.unep.ch/geo1
Global Information Locator Service	http://www.usgs.gov/gils
Inter-America Biodiversity Information Network	http://www.nbii.gov/iabin/
Organisation for Economic Co-operation and Development	http://www.oecd.org
Protected Areas Virtual Library	http://www.wcmc.org.uk/dynamic/pavl/
Ramsar Wetlands Convention	http://www.iucn.org/themes/ramsar
Ukraine national report to CBD	http://www.freenet.kiev.ua/ciesin/N_97/eng/index.htm
UN Framework Convention on Climate Change	">http://www.unfccc.de/>
World Conservation Monitoring Centre	http://www.wcmc.org.uk
World Heritage Information Network	http://www.wcmc.org.uk/whin/

ANNEX 1 KYIV WORKSHOP PROGRAMME

Workshop on Reporting Biological Diversity Information in the NIS Kyiv, Ukraine, Dec 1-3, 1997

General

The Workshop will assist the Newly Independent States (NIS) in their efforts in co-ordinating internationally relevant biodiversity information gathering and in applying modern methodology and technology to meet reporting requirements of various international conventions.

Participants

- National Focal Points of Convention on Biological Diversity Reporting from NIS (8 countries)
- Representatives from Convention secretariat
- International Organisations with related interests

Monday 1 December

- 9:00-11:00 Arrival, registration
 Coffee Break
- 11:30-13:00 Welcoming
 Introduction of participants
 Official welcome by Deputy Minister Movchan
 Background and objectives of workshop
 Lunch
- 14:30-15:00 National report Ukraine in Internet Format, Valentina Tkachenko
- 15:00-16:00 National Focal Points reports (20 min each)
 Ukraine, Armenia Azerbaijan, Belarus
 Coffee Break
- 16:30-18:00 National Focal Points reports (20 min each)
 Kazakhstan, Moldova, Turkmenistan, Uzbekistan
- 18:00 *Supper*

Tuesday 2 December

- 9:00-11:00 Presentations of International Organisations:
 What Biodiversity Networks exist?
 Presentation of Environmental Information Products
 Jeremy Harrison, *WCMC/BCIS*
 Nickolai Denisov, *GRID-Arendal*
 Coffee Break
- 11:30-13:00 Discussion
 Institutional Aspects of Streamlining Biodiversity Reporting
 Methodological/Technical Aspects of Streamlining Biodiversity Reporting
 Lunch
- 14:30-15:00 Preliminary Results from Questionnaire
 Claudia Heberlein, *GRID-Arendal*
- 15:00-17:30 Discussion continued
- 17:30-18:30 Formulation of group recommendations
- 19:00 *Banquet*

Wednesday 3 December

- 9:00-10:00 Editing of Conclusions and Recommendations
- 10:00 Wrap-up and Closing of Workshop

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ANNEX 3 ACRONYMS AND ABBREVIATIONS

BCIS	Biodiversity Conservation Information System
CBD	Convention on Biological Diversity
CCD	Convention to Combat Desertification
CHM	CBD Clearing House Mechanism
CITES	Convention on International Trade in Endangered Species
CMS	Convention on Migratory Species
COP	Conference of the Parties
CSD	UN Commission on Sustainable Development
EC	European Commission
EEA	European Environment Agency
EIONET	EU Environmental Information and Observation Network
ENRIN	UNEP Environment and Natural Resources Information Networks
ENRM	Environment and Natural Resources Management
EU	European Union
EUROSTAT	Statistical Office of the European Communities
FAO	UN Food and Agriculture Organisation
FCCC	Framework Convention on Climate Change
GEF	Global Environment Facility
GELOS	Global Environmental Information Locator Service
GEO	UN Global Environment Outlook
GILS	Global Information Locator Service
GRID	UNEP Global Resource Information Database
IABIN	Inter-American Biodiversity Information Network
IPCC	Intergovernmental Panel on Climate Change
IUCN	World Conservation Union
MAB	UNESCO Man and Biosphere Programme
NEAP	National Environmental Action Plan
NIS	Newly Independent States
OECD	Organisation for Economic Co-operation and Development
SBSTTA	CBD Subsidiary Body on Scientific, Technical and Technological Advice
UN	United Nations
UNDP	UN Development Programme
UNECE	UN Economic Commission for Europe
UNEP	UN Environment Programme
UNESCO	UN Education, Scientific and Cultural Organisation
WCMC	World Conservation Monitoring Centre