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INFORMAL MEETING ON INTEROPERABILITY
AMONG THE THREE RIO AND OTHER
ENVIRONMENTAL CONVENTIONS
Montreal, 2-3 November 2004

REPORT OF THE INFORMAL MEETING ON INTEROPERABILITY AMONG THE THREE RIO AND OTHER ENVIRONMENTAL CONVENTIONS

INTRODUCTION

A. Background

1. In paragraph 7 (e) of its decision VII/23, on scientific and technical cooperation and the clearing-house mechanism, the Conference of the Parties requested the Executive Secretary to advise on ways the mechanism can assist to make relevant information interoperable among the three Rio conventions for review at the eighth meeting of the Conference of the Parties. In paragraph 7 (d) of the same decision, the Conference of the Parties requested the Executive Secretary to examine ways to develop regional portals to visualize and exchange national and regional cartographic information (geographic information systems and remote-sensing) from all thematic areas (including maps, satellite images and datasets).

2. Programme element 2 (Information systems) of the programme of work on technology transfer and technological and scientific cooperation adopted by the Conference of the Parties in its decision VII/29 also called for the development of advice and guidance on the use of new information-exchange formats, protocols and standards to enable interoperability among relevant existing systems of national and international exchange, including technology and patent databases.

3. In addition, the joint liaison group of the Convention on Biological Diversity, the United Nations Convention to Combat Desertification (UNCCD) and the United Nations Framework Convention on Climate Change (UNFCCC), is examining activities related to the development of a joint strategy on information exchange, a portal for accessing national communications and reports and information issues related to capacity-building and technology transfer.

4. In response to these decisions, the Executive Secretary organized the informal meeting on interoperability of information among the three Rio and other environmental conventions in Montreal on 2-3 November 2004.

5. This meeting was intended to recommend possible categories of information to be made interoperable, identify possible common formats, protocols, metadata and standards to facilitate

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interoperability and to discuss the development of regional portals to visualize and exchange regional cartographic information.

B. Attendance

6. This meeting brought together 13 experts from the Rio conventions, other environmental conventions, international organizations and initiatives and members from the informal advisory committee of the clearing-house mechanism qualified in the fields of management of data management-related issues, information sharing systems and geographic information systems, establishment of clearing-houses and/or the clearing-house mechanism of the Convention on Biological Diversity.

7. The following Rio conventions, relevant environmental conventions, United Nations organizations, organizations and initiatives participated in the meeting:

(a) United Nations Framework Convention on Climate Change (UNFCCC), United Nations Environment Programme—Environment Management Group (UNEP-EMG), United Nations Environment Programme—World Conservation Monitoring Centre (UNEP-WCMC), Ramsar Convention;

(b) Informal advisory committee (IAC) of the clearing-house mechanism: Canada, Colombia and Belgium;

(c) Global Biodiversity Information Facility (GBIF); Inter-American Biodiversity Information Network (IABIN); Integrated Taxonomic Information System (ITIS);

8. The full list of participants is contained in annex II to the present report.

ITEM 1. OPENING OF THE MEETING

9. The meeting was opened at 9 a.m. on Tuesday, 2 November 2004.

10. On behalf of the Executive Secretary of the Convention on Biological Diversity, Mr. Arthur Nogueira, Principal Officer, Implementation and Outreach, introduced issues related to interoperability of information and welcomed the participants to the meeting.

ITEM 2. ORGANIZATIONAL MATTERS

2.1. Election of officers

11. At the 1st session of the meeting, on 2 November 2004, Mr. Kevin Grose of the Secretariat of the United Nations Framework Convention on Climate Change, was elected to serve as Chair.

2.2. Adoption of agenda

12. At the opening session of the meeting, participants adopted the following agenda:

1. Opening of the meeting.
2. Organizational matters:
 - 2.1. Election of officers;
 - 2.2. Adoption of the agenda;
 - 2.3. Organization of work.

3. Technical presentation on formats, protocols, standards, products, databases and applications of the clearing-house mechanism.
4. Categories of information for interoperability purposes:
 - (a) Decisions;
 - (b) National focal points;
 - (c) National reports;
 - (d) Case-studies;
 - (e) Library materials;
 - (f) Other.
5. Possible formats, protocols and standards for the improved exchange of biodiversity-related data, information and knowledge, among the three Rio and other environmental conventions.
6. Discussion on the development of regional portals to visualize and exchange national and regional cartographic information.
7. Recommendations and follow-up action.
8. Closure of meeting.

2.3. Organization of work

13. At the 1st session of the meeting, on 2 November 2004, participants approved the proposed programme of work as contained in annex II to the annotations to the provisional agenda (UNEP/CBD/CHM/IM-Interop/1/1/Add.1).

ITEM 3. TECHNICAL PRESENTATION ON FORMATS, PROTOCOLS, STANDARDS, PRODUCTS, DATABASES AND APPLICATIONS

14. Agenda item 3 was considered during the 1st plenary session of the meeting, on 2 November 2004.

15. Mr. Marcos Silva, of the Secretariat of the Convention on Biological Diversity, gave a presentation under agenda item 3 and discussed the background to the meeting and possible categories of information that could be made interoperable. He stressed the need for practical and feasible projects and requested participants to share their experiences with making data interoperable.

16. Mr. Olivier de Munck, of the Secretariat of the Convention on Biological Diversity, gave a presentation on formats, protocols and standards with regard to their possible use and application. He also discussed information services available at the Secretariat of the Convention on Biological Diversity

17. Interventions on the above presentation were made by UNEP-World Conservation Monitoring Centre, Environmental Management Group, Species 2000, the Clearing-House Mechanism of Colombia, Ramsar Convention, and the Clearing-House Mechanism of Belgium. There was agreement that a pilot project could demonstrate the value of making information resources among the three Rio and other environmental conventions interoperable.

18. Mr. Philippe Leblond, of the Secretariat of the Convention on Biological Diversity, gave a presentation on existing mechanisms for interoperability and discussed current projects initiated by the Secretariat, especially the work on interoperability and the Biosafety Clearing-House. He summarized the levels of interoperability—semantic, representational and technical—and discussed their use and application.
19. Dr. Hannu Saarenmaa, of the Global Biodiversity Information Facility, gave a presentation on the mandate of the Facility, its projects and data portal and discussed potential joint projects.
20. Dr. Michael Ruggiero, of the Integrated Taxonomic Information System, gave a presentation on the Catalogue of Life, which is indexing the world's known species. He also described the joint work by Integrated Taxonomic Information System and Species 2000 in the development of the Catalogue. The Catalogue of Life will offer a comprehensive means for checking the status, classification and naming of species.
21. Discussion ensued on the contribution of Global Biodiversity Information Facility, the Integrated Taxonomic Information System and Species 2000 to the three and other environmental Conventions. Interventions were made by Species 2000, Environmental Management Group, the Global Biodiversity Information Facility and the UNEP-World Conservation Monitoring Centre.
22. Mr. Kevin Grose and Mr. Sergei Makarov, of the Secretariat of the United Nations Framework Convention on Climate Change, gave a presentation on issues related to the information resources envisioned and developed by the Climate Change Secretariat. The Technology Transfer Clearing-House (TT:Clear) and other databases were discussed and described.
23. Comments on the presentation were made by the Global Biodiversity Information Facility and the UNEP-World Conservation Monitoring Centre.
24. Dr. Ian Crain, representing the UNEP World Conservation Monitoring Centre gave a brief summary of activities and projects of the Centre related to information exchange and management. He stressed the need for thesauri and other harmonization tools to use information more effectively.
25. Mr. Yabanex Batista presented a brief update on developments of the Inter-American Biodiversity Information Network and on the establishment of its new secretariat in Panama.
26. Dr. Frank Bisby commented on the development of further regional networks such as the European Network for Biodiversity Information (ENBI), Species 2000 Asia-Oceania, and the Pacific Biodiversity Information Facility (PBIF).

**ITEM 4. IDENTIFICATION OF CATEGORIES OF
INFORMATION SUCH AS DECISIONS, NATIONAL
FOCAL POINTS, FOR THE IMPLEMENTATION OF
INTEROPERABILITY PROJECTS**

27. Agenda item 4 was considered during the 2nd plenary session of the meeting, on 2 November 2004. The Chair proposed that discussion under this agenda item on identification of categories to be made interoperable cover the following elements:
 - (a) Decisions and recommendations;
 - (b) National focal points;
 - (c) Case-studies;

- (d) National reports
- (e) Library online catalogues;
- (f) Other.

28. Discussion centred on which categories of information to make interoperable among the three and other environmental conventions. There was agreement to begin a pilot project using information pertaining to convention related meetings to create an interoperable joint calendar of events.

29. There was also agreement to make information interoperable pertaining to national focal points. Discussion ensued on the resources required to sustain such a system and the ways and means to make information interoperable. Agreement was reached on the need to develop a common format for national focal points with a view to make this information interoperable.

30. Discussion continued on how to make decisions and recommendations of the three Rio and other environmental decisions interoperable. There was agreement that further technical study was required to make decisions interoperable and searchable and that technical staff of the secretariats would further discuss this issue.

31. There was discussion on the need to use controlled vocabularies and thesaurus-aided tools to more easily search for information. There was agreement to study the possibility of developing a common searching controlled vocabulary among the three Rio and other environmental conventions. There was also agreement that the development of common vocabularies would assist the work toward harmonization of national reporting.

32. Agreement was reached on publishing agreed common formats, protocols and standards used to make information interoperable by the three Rio and other environmental conventions.

33. Participants discussed the means of making information about case-studies interoperable. There was consensus that development of a common controlled vocabulary could assist the use of metadata to describe case-studies and assist with their interoperability.

34. Participants discussed the possibility of making the Convention's library online catalogue and official and information documents interoperable. There was agreement that this project could begin following completion of the pilot projects related to other information categories.

ITEM 5. POSSIBLE FORMATS, PROTOCOLS AND STANDARDS FOR THE IMPROVED EXCHANGE OF BIODIVERSITY-RELATED DATA, INFORMATION AND KNOWLEDGE AMONG THE THREE RIO AND OTHER ENVIRONMENTAL CONVENTIONS

35. Agenda item 5 was considered during the 2nd plenary session of the meeting, on 2 November 2004. The Chair proposed that discussion under this agenda item cover the following elements:

- (a) Use of XML, RDF/Dublin Core;
- (b) Tools developed to assist interoperability;
- (c) Lessons learned.

36. Participants agreed to use, whenever possible, common formats, protocols and standards and share them to promote their use and dissemination.
37. Participants also agreed to review and survey the use of XML (eXtensible Markup Language) and SOAP (Simple Object Access Protocol) with a view to adopt them as standards for making information interoperable through web services. Other methods to promote interoperability would also be considered.

ITEM 6. DISCUSSION ON THE DEVELOPMENT OF REGIONAL PORTALS TO VISUALIZE AND EXCHANGE NATIONAL AND REGIONAL CARTOGRAPHIC INFORMATION

38. Agenda item 6 was considered during the 2nd plenary session of the informal meeting, on 3 November 2004.
39. Dr. Fernando Gast, of the Clearing-House Mechanism of Colombia, gave a presentation on initiatives related to the Clearing-House Mechanism, particularly its web portal, electronic resources and databases, and presented a video.
40. Comments on the presentation were made by the Secretariat of the United Nations Framework on Climate Change, the Integrated Taxonomic Information System, the Clearing-House Mechanism of Belgium and the UNEP Environment Management Group.
41. Dr. Frank Bisby gave a presentation on interoperability projects linked to Species 2000 – the SPICE distributed system for harvesting taxa from taxonomic databases using its SPICE protocol, and BiodiversityWorld, a GRID-based pilot project to establish a distributed problem-solving environment for global biodiversity patterns.
42. Comments on the presentation were made by the Global Biodiversity Information Facility and UNEP-World Conservation Monitoring Centre.
43. Dr. Hannu Saarenmaa, of the Global Biodiversity Information Facility (GBIF), gave a presentation on the GBIF distributed architecture and its geographic information systems functions. Dr. Saarenmaa also commented on the relevance of the work of the Taxonomic Database Working Group (TDWG) to the discussions of this meeting.
44. Dr. Ian Crain, representing the UNEP-World Conservation Monitoring Centre, spoke on the experience of the UNEP-World Conservation Monitoring Centre on making spatial data interoperable and how that experience could assist in the development of regional portals.
45. Discussion ensued on implementation of regional portals to visualize and exchange cartographic information. Comments were made by UNEP-World Conservation Monitoring Centre, the Integrated Taxonomic Information System, the Clearing-House Mechanism of the Government of Colombia, the Clearing-House Mechanism of Belgium, the Inter-American Biodiversity Information Network. There was agreement that the development of a metadata registry would greatly assist parties and other governments to access cartographic data and information. There was also consensus that such a registry should assist work in support of indicators for the 2010 target.

ITEM 7. RECOMMENDATIONS AND FOLLOW-UP ACTION

46. Agenda item 7 was considered during the 2nd plenary session of the informal meeting, on 3 November 2004.

ITEM 8. ADOPTION OF THE REPORT

47. The present report was adopted during the second plenary session of the informal meeting, on 3 November 2004.

ITEM 9. CLOSURE OF THE MEETING

48. The Chair declared the informal meeting closed at 5 p.m. on Wednesday, 3 November 2004.

RECOMMENDATIONS

The participants in the Informal Meeting on Interoperability among the Three Rio and other Environmental Conventions,

Recognizing the importance of building on experience and existing information exchange systems,

Acknowledging the work of the joint liaison group to facilitate access to information,

Recognizing also that there must be agreement on categories of content, information exchange formats, protocols and standards to ensure effective interoperability of information,

Also recognizing the importance of ongoing work on tools and reference systems to make information content comparable and compatible, *inter alia*, taxonomy reference systems, controlled vocabularies and nomenclature and classification systems,

1. *Recommend* the following activities to facilitate and promote more effective exchange of information:

A. Activities by the Rio conventions and other relevant environmental conventions

Controlled vocabularies and metadata

(a) Review controlled vocabularies used by the Rio conventions and other relevant environmental conventions in order to identify a controlled vocabulary to assist in the searching and retrieval of information;

(b) Use the joint common vocabulary as metadata to describe categories of information such as case-studies, official documents, etc;

(c) Where relevant, consider using existing controlled vocabularies such as the Species 2000/ITIS Catalogue of Life, among others;

Formats, protocols and standards

(d) Review and survey the data resources available in the Rio conventions and other relevant environmental conventions with a view to sharing information about their respective use of common formats, protocols and standards;

(e) Whenever possible, the Rio conventions and other relevant environmental conventions should agree on and use common formats, protocols and standards;

Technology transfer

(f) Work with the Secretariat, particularly in relation to the Technology Transfer Clearing-House (TT Clear), to assist in the implementation of activities related to information exchange and decision VII/29 of the Conference of the Parties to the Convention on Biological Diversity, on technology transfer and cooperation;

B. Categories of information to make interoperable

Pilot project

(g) Initiate a pilot project to make data interoperable using information held by the Rio conventions and other relevant environmental conventions, including: the joint calendar of mutually relevant events and national focal points to the conventions;

(h) Examine how to make the decisions, recommendations and official documents of the Rio conventions and other relevant environmental conventions interoperable once the feasibility of the pilot project has been demonstrated;

(i) Subject to available resources, make interoperable the library catalogues of the Rio conventions and other relevant environmental conventions;

(j) Share and exchange controlled vocabularies through the use of agreed upon protocols;

Establishment of a technical working group of the Joint Liaison Group

2. *Recommend* that the Executive Secretary requests the Joint Liaison Group to consider the establishment of a technical working group to facilitate the implementation of activities described above;

Development of regional portals to visualize and exchange national and regional cartographic information

3. *Recommend* that the Executive Secretary of the Convention on Biological Diversity:

(a) Develop a metadata registry of cartographic data, information and products, using the ISO 19115 metadata standard, that allows for queries at the national, subregional, regional and global levels and make this available through the clearing-house mechanism;

(b) Build on existing cartographic information and products available through national clearing-house mechanisms and then include other organizations and projects, such as the networks under the Global Resource Information Database of the United Nations Environment Programme, among others;

(c) Establish the metadata registry so that it supports work related to the programme areas and cross-cutting issues of the Convention, with special emphasis on the 2010 target;

(d) Examine the feasibility of using web services to allow for the automated advertising, discovery and retrieval of data;

(e) Link with organizations that have developed spatial data portals, systems and visualization facilities, such as the Centre for International Earth Science Information Network, the Global Terrestrial Observing System, the Global Ocean Observing System and the Global Climate Observing System, among others, and establish joint initiatives and projects to facilitate data access, archiving and re-use and to prevent duplication of effort.

Annex II

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