

Ministry of Environment

**Third National Report
to the Convention on
Biological Diversity**

BRAZIL

September 2005

PRESENTATION

The elaboration of periodic Reports containing information about the implementation of the Convention on Biological Diversity (CBD) is a responsibility undertaken by Brazil as Party to the Convention. In addition, these Reports have great importance as references for the elaboration of public policies concerning the environment, since they allow the evaluation of all actions undertaken in the country for the preservation of its natural heritage. Brazil elaborated its First National Report in 1998, and its English version was made available in 1999. The Second National Report was elaborated in 2002 and published, both in Portuguese and English, in 2004. The electronic versions of both documents are available at www.mma.gov.br/index.cfm?id_estrutura=14&id_conteudo=818.

We hereby present the *Third National Report to the Convention on Biological Diversity*, which includes initiatives that reflect the degree of CBD implementation in Brazil up to 2005. The document was elaborated based on the Guidelines for National Reports established by the Conference of the Parties (Decisions V/19, VI/25 and VII/25) and is divided into two sections:

- Indication of the initiatives conducted in the country which contribute to the implementation of the articles of the Convention, as well as to the implementation of the Thematic Work Plans;
- Definition of the national goals to reduce biodiversity loss related to the global goals defined in the CBD Strategic Plan for 2010 and in the Global Strategy for Plant Conservation.

Considering that Brazil has not yet defined national goals correlated to the goals established by the CBD, and that such process requires the conduction of supporting studies which are still underway, the country chose to elaborate, in a first stage, the portion containing the account of the implementation of the articles of the Convention in the country. For that, the Guidelines for National Reports provided a questionnaire with 207 multiple choice questions, most of which were followed by comments to clarify or enrich the answers. In addition to these questions, the report contains 35 boxes with 6 items ("a" to "f") at the end of each article and work program, which present an analysis of the impacts or outcomes of the measures implemented by the country (item "a"), particularly regarding the compliance with the main objectives of the National Biodiversity Policy (instituted by Decree 4339 of 22 August 2002) (item "d") and with the Millennium Development Goals (item "e"); of the implementation of the goals and objectives of the Strategic Plan of the Convention (2002 – 2010) (item "b"), as well as of the 2010 Goals adopted during the 6th Meeting of the Conference of the Parties (item "c"). In addition, under item "f", information concerning the limitations or constraints to the implementation of the several articles, dispositions and work programs of the CBD are presented.

To answer this questionnaire, the Ministry of the Environment applied the methodology described below, which was previously discussed and approved by the National Biodiversity Commission – CONABIO (created by Presidential Decree 4703 of 21 May 2003, Annex 1) during its 6th Ordinary Meeting, which occurred on 05 and 06 May 2004.

The document was elaborated in a participatory manner, including consultation processes which allowed considering the opinion of representatives of several civil sectors which are important for biodiversity management. Initially, a form was elaborated (Annex 2) to consult the states, the programs of the federal government Pluri-annual Plan (PPA) which maintain interface with themes related to biodiversity, and a group of civil society entities conducting biodiversity management actions

(NGOs, representatives of the production sector, representatives of indigenous communities and quilombola communities, among others). This form assisted in gathering information on the main relevant initiatives developed by the several sectors.

The consultation process occurred from mid-December 2004 to March 2005. A total of 164 institutions were consulted, from which 27 were State Environmental Agencies, 57 were programs included in the PPA, 67 were civil society entities, and 13 were governmental structures with responsibilities related to Biodiversity. From the consulted institutions, 71 provided information concerning important initiatives for CBD implementation in the country (Annex 3).

Following this stage, the information obtained through the consultation process was consolidated. In addition, Internet research was conducted to gather information on other important initiatives. A draft document was then prepared and presented for discussion in two consultation meetings to validate the document, which were conducted on 11 and 12, 18 and 19 April 2005, in Brasília. A total of 75 people participated in the meetings, representing Brazilian states, PPA programs, and governmental and non-governmental institutions (Annex 4). During these meetings, the document was thoroughly discussed and new information was added to the text. A new version of the document was then prepared and submitted for discussion and approval by CONABIO (Deliberation nº 28, on 04 May 2005).

Because they result from a participatory process, answers in some cases do not faithfully reflect the country's reality, since they represent an average of diverse situations, considering regional differences, and social, political and economical disparities that exist in the country. Whenever possible, these disparities were mentioned in the comments related to each article.

The list of every person and institution consulted, and which contributed to the elaboration of this Third National Report on CBD implementation in Brazil is appended to this document.

Some examples can be mentioned concerning the progress detected by this Third National Report. Concerning Article 13, the decentralization of environmental education actions can be highlighted: nearly all Brazilian states possess permanent environmental education agencies or programs, reflecting the local reality in which each target public lives. The creation of environmental education networks also present important impact. On the other hand, a lack of investment in this area is still observed, perhaps due to the low importance this area represents for universities and private and public sectors, among others.

It can also be inferred that, despite the incipient implementation of Articles 15 and 19 of the CBD, which refer to Access to Genetic Resources and Biotechnology Management and Benefit-Sharing, the strengthening of the Genetic Heritage Management Council (CGEN) can be highlighted, due to its positive impacts. It should also be mentioned that CGEN has been seeking to broaden participation of those who possess traditional knowledge on the decision-making processes.

Therefore, the present document, as exposed above, is the result of a collective construction, thus reflecting the opinion and stand of the several players consulted during its elaboration.

João Paulo Capobianco

Secretary of Biodiversity and Forests

GUIDELINES FOR THE THIRD NATIONAL REPORT

1. Parties to the Convention on Biological Diversity are required to report to the Conference of the Parties in compliance with their obligations under Article 26 of the Convention on Biological Diversity. The following format for the third national report was prepared in accordance with the requirements contained in paragraph 3 of decision VI/25 and paragraphs 2 and 3 of decision VII/25, building on the guidelines for national reports adopted by the Conference of the Parties in paragraph 2 of its decision V/19.
2. The present format seeks a balance between the need to obtain maximum information on the implementation of the Convention, on one hand, and the imperative to keep the report within reasonable dimensions on the other. It is expected that the information provided will help Parties and the Conference of the Parties to review the extent to which the provisions of the Convention as well as the programmes of work adopted under the Convention are being implemented.
3. The format also took into consideration requests from Parties calling for the reporting process to go beyond highlighting the administrative aspects of the implementation of the Convention and instead to place more emphasis on the actual outcomes of the implementation of the policies of the Convention on Biological Diversity.
4. A number of features were adopted to ensure simplicity and consistency throughout the format:

General features of this format

- a) The questions set forth in this format are based on the Articles and Programmes of Work of the Convention and on those elements of the decisions of the Conference of the Parties specifically addressed to the Parties.
- b) The format contains some questions that are contained in the guidelines for the second national report and some of the thematic reports (these questions have been marked with in this format). The aim of repeating these questions in the present format is to allow for the establishment of historical series on specific implementation issues and thus their trends over time. The rest of the questions in the format are entirely new.
- c) This format contains 75 boxes, numbered in Roman ordinals, and 206 questions numbered in Arabic ordinals. The boxes require full answers, in written text, while the questions require only ticking one or more of the multiple answers provided. Responses inserted in the boxes cannot be analyzed electronically, while responses to the questions will be fed to an electronic analyzer when the completed national reports are submitted to the Secretariat.

d) The wording of questions set forth in this format follows, as closely as possible, the actual wording of the Articles, programmes of work and decisions of the relevant meetings of the Conference of the Parties. The questions have been kept as simple as possible.

Specific guidance on using the questionnaire

e) As with the second national report, Parties are required to submit the third national report both in electronic and hard copy (paper) formats. The electronic format uses Microsoft's WORD software.

f) Boxes within this format look small in hard copy but can be made bigger in the electronic format by placing your cursor inside the box and then pushing repeatedly on the < ENTER > key. Increase the length of your boxes as much as you wish to correspond to the space you need, but make sure your intended response/answer is all placed inside the box. If you need to attach further information or provide extensive details on specific answers, please feel free to do so when you submit the hard copy of your report.

g) Questions contain multiple answers and you are invited to tick the one that best describes the situation of your country. If you feel, or the question requires, that you must tick more than one answer to a specific question, please feel free to do so.

h) Many questions contain an attached box below in which you are invited to provide further details to clarify or enrich the respective multiple-answer question ticked. Please make sure that the additional information provided in the box is closely related to the preceding question and is as succinct as possible. There is no set limit on length, but it is anticipated that Parties will be able to provide adequate and useful information in a maximum of a page or two. To increase the size of these attached boxes, use the same procedure described in paragraph (f) above.

i) In ticking the multiple answer options provided, please simply use an "X" in the appropriate case(s). Do not write or add symbols of any nature, because these will not be recognized during the subsequent electronic analysis.

j) In addition to the boxes attached to some of the questions, the format offers an additional opportunity, at the end of each article and programme of work, to elaborate on the impacts or outcomes of the actions taken by your country, particularly in terms of achieving the priority objectives of your national biodiversity strategies and/or action plans, if applicable, the goals and objectives of the Strategic Plan of the Convention (2002-2010) and the 2010 target adopted at the sixth meeting of the Conference of the Parties.

k) Further, Parties are requested to provide information concerning the constraints or impediments they encounter in the implementation of various articles, provisions and programmes of work.

- I) There are a few questions which are designed to solicit information from developed country Parties only, and a few others aimed at developing countries and countries with economies in transition only. These questions are clearly identified as such. Please make sure that you answer those questions that specifically refer to your country and that you do not answer those questions that address a category to which your country does not belong.
5. The Executive Secretary would welcome any comments on the adequacy of the questions and difficulties in completing these questions, and any further recommendations on how these reporting guidelines could be improved. Box LXXV at the end of the report is provided for this purpose.
 6. It is recommended that in preparing their national reports, Parties involve a wide range of stakeholders in order to ensure a participatory and transparent approach to the reporting process. Box I, which appears at the beginning of the guidelines, is provided for listing the range of groups or stakeholders involved in the process.
 7. The information provided by the Parties will not be used to rank performance or to otherwise compare implementation between individual Parties.
 8. **Parties are requested to submit their third national report in this format to the Executive Secretary by 15 May 2005.** Parties are requested to submit an original signed copy by post and an electronic copy on diskette or by electronic mail.
 9. This format is also available on the Convention's website at:

<http://www.biodiv.org/world/intro.asp>
 10. Completed national reports and any comments should be sent to:

The Executive Secretary

Secretariat of the Convention on Biological Diversity

World Trade Centre

413 St. Jacques Street West, suite 800

Montreal, Québec

H2Y 1N9 Canada

Fax: (1 514) 288 6588

E-mail: secretariat@biodiv.org

C. ARTICLES OF THE CONVENTION

Article 5 – Cooperation

9. Is your country actively cooperating with other Parties in respect of areas beyond national jurisdiction for the conservation and sustainable use of biological diversity?	
a) No	
b) Yes, bilateral cooperation (please give details below)	X
c) Yes, multilateral cooperation (please give details below)	X
d) Yes, regional and/or subregional cooperation (please give details below)	X
e) Yes, other forms of cooperation (please give details below)	X
Further comments on cooperation with other Parties in respect of areas beyond national jurisdiction for the conservation and sustainable use of biodiversity.	
<p>Brazil participates of the following bilateral agreements:</p> <p>Argentina: Cooperation Agreement: Agreement for the Conservation of the South Atlantic Natural Resources [<i>Acordo de Conservação dos Recursos Naturais do Atlântico Sul</i>], signed between Brazil and Argentina in Buenos Aires, on 29 December 1967. Decree-Law 454, of 04 Feb. 1969</p> <p>Bolivia: Agreement for the Control, Preservation and Conservation of Natural Resources along the Brazil-Bolivia Border [<i>Convênio para a Preservação, Conservação e Fiscalização dos Recursos Naturais nas Áreas de Fronteira</i>] - Brasília, 15 August 1990, Legislative Decree 91, of 18 December 1992, and Decree 3026, of 13 April 1999 http://wwwt.senado.gov.br/legbras/</p> <p>Colombia: Agreement for the Conservation of the Fauna and Flora within the Amazon Region [<i>Acordo para a Conservação da Flora e da Fauna dos Territórios Amazônicos</i>] - Bogotá, 20 June 1973, Legislative Decree n° 72 of 03 December 1973 and Decree n° 78017 of 12 July 1976; http://wwwt.senado.gov.br/legbras/</p> <p>Agreement on Animal Health Control at the Border Region [<i>Acordo sobre Sanidade Animal em Áreas de Fronteira</i>] - Bogotá, 16 July 1985, Legislative Decree 7 of 21 May 1990 and Decree 3422 of 20 April 2000; http://wwwt.senado.gov.br/legbras/</p> <p>Ecuador: Complementary Amendment to the Basic Technical Cooperation Agreement of 09 Feb. 1982, for the Implementation of the Project: Conservation and Sustainable Development at the Sangay National Park [<i>Conservação e Desenvolvimento Sustentável no Parque Nacional Sangay</i>] - Quito, 08 Oct. 1999, D.O.U section I, n° 227, 29 Nov. 1999</p> <p>Guiana: Amazonian Cooperation Agreement [<i>Acordo de Cooperação Amazônica</i>] - Brasília, 05 October 1982; Legislative Decree 32 of 09 December 1985, and Decree 92931 of 17 July 1986; http://wwwt.senado.gov.br/legbras/</p> <p>Paraguay: Agreement for the Conservation of the Aquatic Fauna of the Border Rivers [<i>Acordo para a Conservação da Fauna Aquática nos Cursos dos Rios Limítrofes</i>] - Brasília, 01 September 1994, Legislative Decree 138 of 10 November 1995, and Decree 1806 of 06 February 1996; http://wwwt.senado.gov.br/legbras/</p>	

Additive Protocol to the Agreement for the Conservation of the Aquatic Fauna of the Border Rivers /Brasília, 19 May 1999, Legislative Decree 33 of 10 April 2002, and Decree 4256 of 03 June 2002; <http://wwwt.senado.gov.br/legbras/>

Peru: Agreement for the Conservation of the Flora and Fauna of the Amazon Region of Brazil and Peru [*Acordo para a Preservação da Flora e da Fauna dos Territórios Amazônicos da República Federativa do Brasil e da República do Peru*] - Lima, 07 Nov. 1975; Legislative Decree 39 of 17 May 1976, and Decree 78802 of 23 November 1976; <http://wwwt.senado.gov.br/legbras/>

Protocol for the Implementation of a Forest Fire Prevention and Control System [*Protocolo para a Implementação de um Sistema de Prevenção e Controle de Incêndios Florestais*] - Lima, 25 Aug. 2003, D.O.U. No. 33 of 17 Feb. 2004, http://www2.mre.gov.br/dai/b_peru_148_5135.htm

Uruguay: Fisheries and Preservation of Living Resources Agreement [*Acordo de Pesca e Preservação dos Recursos Vivos*] - Montevideo, 12 Dec. 1968. Decree-Law 412 of 09 Jan. 1969.

Brazil participates in the following multilateral agreements:

International Convention for the Conservation of Atlantic Tunas and Tuna-like Fishes, Rio de Janeiro, 14 May 1966. Decree-Law 478 of 27 February 1969 and Decree 65026 of 22 August 1969 <http://wwwt.senado.gov.br/legbras/>

Interamerican Convention for the Protection and Conservation of Marine Turtles, Caracas, 01 Dec. 1996. Legislative Decree 91 of 14 Feb. 1999 and Decree 3842 of 15 Jun. 2001.

International Convention for the Conservation of Atlantic Tunas, Madrid, 05 Jul. 1992. Legislative Decree 99 of 03 Jul. 1995.

Convention on the Conservation of Antarctic Marine Living Resources, Canberra, 20 May 1980. Legislative Decree 33 of 05 Dec. 1985 and Decree 93935 of 15 Jan. 1987.

Convention for the Conservation of Antarctic Seals, London, 01 Jun. 1972. Decree 66 of 18 Mar. 1991.

Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 03 Mar. 1973. Legislative Decree 54 of 24 Jun. 1975.

10. Is your country working with other Parties to develop regional, subregional or bioregional mechanisms and networks to support implementation of the Convention? (decision VI/27 A)

a) No	
b) No, but consultations are under way	
c) Yes, some mechanisms and networks have been established (please provide details below)	X
d) Yes, existing mechanisms have been strengthened (please provide details below)	X

Further comments on development of regional, subregional or bioregional mechanisms and networks to support implementation of the Convention.

Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among South American Countries. With the purpose of fulfilling its commitments by CBD, the Brazilian gov-

ernment organized, through the Ministry of the Environment (MMA), the Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among South American Countries, conducted in Rio de Janeiro from 14 to 17 December 2003. This event involved the main players responsible for the National Biodiversity Strategies (NBS) of Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, French Guiana, Paraguay, Peru, Uruguay and Suriname, in addition to representatives from national and international institutions that promote projects related to the conservation and sustainable use of biodiversity. The objectives of this meeting were to identify the main progresses obtained in the implementation of the South American NBS's since 1998, and to identify those themes of common interest and priority actions in biodiversity, with the purpose of guiding the cooperation initiatives for the implementation of CBD commitments in South America. During this meeting, the following documents were elaborated:

- Declaration of the Meeting for South American Cooperation on Biodiversity – RIO 2003 [*Carta da Reunião de Cooperação Sul-Americana em Biodiversidade – RIO 2003*];
- Priority themes on biodiversity for cooperation and interchange among South American countries [*Temas e ações prioritárias em Biodiversidade para a cooperação e intercâmbio entre os países da América do Sul*].

The results from this meeting were published in the book **National Biodiversity Strategies in South America: Perspectives for Regional Cooperation** [*Estratégias Nacionais de Biodiversidade na América do Sul: Perspectivas para Cooperação Regional*], in 2004, by the Directorate of the National Biodiversity Conservation Programme [DCBIO – *Diretoria do Programa Nacional de Conservação da Biodiversidade*] of the Ministry of the Environment. In addition to the above-mentioned documents, this publication includes individual and comparative information on the National Biodiversity Strategies and the advances obtained by each country in their implementation. Two chapters provide resource information for the establishment of cooperation initiatives among South American countries on the priorities and themes of common interest identified during the meeting. The complete publication is available in Portuguese, English and Spanish.

(http://www.mma.gov.br/index.cfm?id_estrutura=37&id_conteudo=1918)

(http://www.mma.gov.br/index.cfm?id_estrutura=37&id_conteudo=1919)

(http://www.mma.gov.br/index.cfm?id_estrutura=37&id_conteudo=1920)

Inter-American Biodiversity Information Network – IABIN - IABIN was created in 1996 as a result of the Santa Cruz Summit of the Americas. Presently, 34 American countries have officially named their focal points for IABIN. The Brazilian governmental institution responsible for indicating the national focal point is the Ministry of the Environment. In addition, the Environmental Information Reference Center – CRIA [*Centro de Referência em Informação Ambiental*] (www.cria.org.br) is working with IABIN. Information on IABIN is available at www.iabin.net.

South American Biodiversity Information Network/South American CHM: During the Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among South American Countries, the participating countries agreed to create a South American Biodiversity Information Network, which will function as the South American Clearing House Mechanism (www.mma.gov.br/biodiversidade).

Inter-American Institute for Cooperation on Agriculture – IICA – The IICA [*Instituto Interamericano de Cooperación para a Agricultura*] is the specialized agency of the Inter-American System, created in October 1942 by a resolution of the Pan-American Union Board of Directors. The Institute prioritizes the participatory rural development with a human focus, the conservation of natural resources, and environmental protection. To better attain practical, high-quality results and technical excellence, the IICA action strategy presently concentrates on six areas: Social and Economic Policies, Commerce and Investments, Science and Technology, Natural Resources and Agricultural Production, Farming and Livestock Sanitation, and Rural Sustainable Development. The IICA currently develops 34 projects in Brazil, in partnership with important institutions such as EMBRAPA, INCRA, IBAMA, CNA, CONTAG, MDA, among others. www.iica.org.br

Within IICA, the following programs stand out:

- **South American Tropics Cooperative Program for Research and Technology Transfer** [*Programa Cooperativo de Investigación y Transferencia de Tecnología para los Tropicos Suramericanos*] – **PROCITROPICOS**: Brazil participates in PROCITROPICOS through the Brazilian Agriculture and Livestock Research Company (EMBRAPA) (www.embrapa.br; www.procitropicos.org.br)
- **Cooperative Program for the Alimentary and Industrial Agronomy Technological Development of the Southern Cone** [*Programa Cooperativo para el Desarrollo Tecnológico Agroalimentario y Agroindustrial del Cono Sur*] – **PROCISUR**: created in 1980, this program is a joint effort of the National Agriculture and Livestock Research Institutes of Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay. Brazil participates in PROCISUR through EMBRAPA (www.embrapa.br; www.procisur.org.uy).

Regional Committee for Plant Sanitation – COSAVE: COSAVE [*Comitê Regional de Sanidade Vegetal*] is a regional organization created in 1989 through an agreement among the governments of Argentina, Brazil, Chile, Paraguay and Uruguay. Its objectives are to strengthen the integration of regional plant sanitation and to develop joint actions towards the resolution of phyto-sanitation problems common to the participating countries. www.cosave.org

11. Is your country taking steps to harmonize national policies and programmes, with a view to optimizing policy coherence, synergies and efficiency in the implementation of various multilateral environment agreements (MEAs) and relevant regional initiatives at the national level? (decision VI/20)

a)	No	
b)	No, but steps are under consideration	
c)	Yes, some steps are being taken (please specify below)	X
d)	Yes, comprehensive steps are being taken (please specify below)	

Further comments on the harmonization of policies and programmes at the national level.

National Biodiversity Policy (Decree 4339 of 22 August 2002): elaborated in agreement with the objectives and articles of the Convention on Biological Diversity. Brazil adopts the CBD and the COP

resolutions as some of the directives for its actions.

National Policy to Combat Desertification (CONAMA Resolution nº 238 of 22 December 1997): elaborated based on the United Nations Convention to Combat Desertification, in addition to other important environmental agreements such as the Agenda 21.

National Policy for Hydrological Resources: elaborated in agreement with the principles approved by Rio-92, especially those dealing with public participation, environmental accountancy and the principle of precaution.

Decree 3515 of 20 June 2000: created the Brazilian Forum for Climate Change, with the objective of creating awareness and mobilizing the general society for the discussion and decision-making on issues resulting from climate change caused by greenhouse gases, as well as on the Clean Development Mechanism (CDM) defined in Article 12 of the Kyoto Protocol to the United Nations Framework Convention on Climate Change.

Presidential Decree creating the Global Climate Change Inter-Ministry Commission: promulgated on 07 July 1999, with the objective of promoting coordination among governmental actions derived from the United Nations Framework Convention on Climate Change and its subsidiary instruments in which Brazil is a party. This Commission is also the Designated National Authority for the Clean Development Mechanism.

National Commission for the Sustainable Development of Traditional Communities. Created by Decree on 27 November 2004, to establish the National Policy for the Sustainable Development of Traditional Communities.

The Commission will be presided by the Minister for Social Development and Hunger Combat, and the Secretariat for Sustainable Development of the Ministry of the Environment will act as the executive secretariat. The Commission will be composed by one representative from each of the following institutions and entities:

- Ministry of Justice;
- Ministry of Planning, Budget and Administration;
- Ministry of Social Development and Hunger Combat;
- Ministry of the Environment;
- Ministry of Agrarian Development;
- Ministry of Agriculture, Ranching and Provisioning;
- Special Secretariat of the President's Office to Promote Racial Equality; and
- Palmares Cultural Foundation [*Fundação Cultural Palmares*].

The Commission may also include representatives of the traditional communities, patronage agencies, civil entities, and scientific community, when designated in Ordinance from the Minister of Social Development and Hunger Combat, and the Minister of the Environment.

Box I.

Please elaborate below on the implementation of this strategy specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) The Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among South American Countries represents the onset of a closer relationship among South American countries in regard to CBD implementation.
- b) The Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among South American Countries is a direct contribution to objective 1.6 of the Strategic Plan: *Parties are collaborating at the regional and subregional levels to implement the Convention.*
- c) The mentioned initiatives present no direct contribution towards achieving the 2010 target.
- d) The fifth directive in Component 7 of the National Biodiversity Policy (legal and institutional strengthening for biodiversity management) aims at the *promotion of international cooperation on biodiversity management, with the strengthening of international legal actions.* The Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among South American Countries was an important initiative toward implementing this component of the National Biodiversity Policy.
- e) Goal 8 of the MDGs (Develop a Global Partnership for Development). Brazil has an active role in the context of the main environmental multilateral agreements, presenting proposals to improve partnerships among countries and to encourage the discussion and use of new, clean and renewable technologies. Examples of this initiative are: the Brazilian leadership in the creation of the Clean Development Mechanism (CDM) – one of the most innovative aspects of the Kyoto Protocol to the United Nations Framework Convention on Climate Change – and the call for a wider use of renewable sources in the energy matrix of each country, expressed during the Johannesburg Conference of 2002, with the support of African and European countries. At the national level, the creation, in 1997, of the Commission for Public Policies on Sustainable Development [CPDS – *Comissão de Políticas para o Desenvolvimento Sustentável*], and the Brazilian Agenda 21 should be highlighted. This Commission seeks to translate the international engagements on sustainable development into the Brazilian particular needs and characteristics, through the dialogue among governmental and non-governmental representatives. The Brazilian Agenda 21, elaborated by CPDS during the preparation for the Johannesburg Conference, was incorporated as a program into the Brazilian government Pluri-annual Plan 2004-2007. During the latest decades, Brazil implemented, with the other developing countries, broad technical cooperation agreements which directly or indirectly affect the capacity of the

recipient country to reach the MDGs. Several programs are being executed through the Brazilian Cooperation Agency [ABC – *Agência Brasileira de Cooperação*] of the Ministry of Foreign Affairs, applying Brazilian technologies and funds and, in some cases, such as for International Technical Cooperation, executed in partnership with developed countries and international agencies such as UNDP. This growing cooperation also includes regional integration themes, such as joint initiatives of the Mercosul countries in the discussion and elaboration of actions dealing with issues such as customs, agriculture, environment, technical regulations, statistics, and institutional strengthening. The conduction of the Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among South American Countries is an example of this.

- f) The institutions responsible for biodiversity management in the developing countries require strengthening, which represents a difficulty in the establishment of South-South cooperation.

Article 6 - General measures for conservation and sustainable use

12. Has your country put in place effective national strategies, plans and programmes to provide a national framework for implementing the three objectives of the Convention? (Goal 3.1 of the Strategic Plan)	
a) No	
b) No, but relevant strategies, plans and programmes are under development	
c) Yes, some strategies, plans and programmes are in place (please provide details below)	X
d) Yes, comprehensive strategies, plans and programmes are in place (please provide details below)	
Further comments on the strategies, plans and programmes for implementing the three objectives of the Convention.	
<p>The National Biodiversity Strategy Project (BRA97/G31) supported the elaboration of the National Biodiversity Policy (Decree 4339 of 22 August 2002), in agreement with CBD objectives. The programs and projects implemented within the Secretariat for Biodiversity and Forests follow the objectives and articles of the CBD, as well as the specific Brazilian needs.</p> <p>One of the important aspects of the National Biodiversity Strategy is the possibility of elaborating biodiversity policies and strategies at the state and local levels.</p>	

13. Has your country set measurable targets within its national strategies and action plans? (decisions II/7 and III/9)	
a) No	
b) No, measurable targets are still in early stages of development	X
c) No, but measurable targets are in advanced stages of development	
d) Yes, relevant targets are in place (please provide details below)	
e) Yes, reports on implementation of relevant targets available (please provide details below)	
Further comments on targets set within national biodiversity strategies and action plans.	
<p>The definition of national targets concerning the global goals established in the GSPC and in the 2010 Biodiversity Target will be conducted through a participatory process, in which relevant social players on biodiversity management will be consulted.</p>	

14. Has your country identified priority actions in its national biodiversity strategy and action plan? (decision VI/27 A)	
• No	
• No, but priority actions are being identified	

• Yes, priority actions identified (please provide details below)	X
Further comments on priority actions identified in the national biodiversity strategy and action plan.	
The National Biodiversity Strategy Project is currently preparing Action Plans to implement the National Biodiversity Policy .	

15. Has your country integrated the conservation and sustainable use of biodiversity as well as benefit sharing into relevant sectoral or cross-sectoral plans, programmes and policies? (decision VI/27 A)

a) No	
b) Yes, in some sectors (please provide details below)	X
c) Yes, in major sectors (please provide details below)	
d) Yes, in all sectors (please provide details below)	

Further information on integration of the conservation and sustainable use of biodiversity and benefit-sharing into relevant sectoral or cross-sectoral plans, programmes and policies.

The National Policy for Sustainable Urban Mobility of the Ministry of Cities emphasizes that urban transportation planning should take into account the environmental issues (www.cidades.gov.br).

Law 10257 of 10 July 2001 includes, in item XII of paragraph 2, the environmental protection, preservation and restoration, as important items in urban planning and regularization. In addition, it establishes the environmental zoning as an urban planning instrument.

The Special Secretariat for Aquaculture and Fisheries of the President's Office [SEAP/PR – Secretaria Especial de Aqüicultura e Pesca da Presidência da República] incorporated the concepts of conservation and sustainable use of biodiversity into its plans, programs and policies, by internalizing the recommendations and conservation measures established by the several commissions dealing with conservation of aquatic organisms, and by considering the available scientific information on living resources, and local fishing potential and vocation, in the elaboration of policies for the development, planning, and regularization of national fishing and aquaculture practices. In addition, the First National Conference on Aquaculture and Fisheries conducted in 2003, and the First National Meeting of Women Working on Fisheries and Aquaculture conducted in 2004, were sequential strategic milestones for the SEAP/PR, where civil society participation guided the development of directives and strategies for the sustainable use of fisheries and aquaculture resources. Additional information available at <http://www.planalto.gov.br/seap/>.

National Natural Rubber Program: conducted by the Ministry of Agriculture, Ranching and Provisioning, this program seeks the self-sufficiency of the Brazilian natural rubber business through production increase, by improving product quality while preserving the environment and emphasizing social and economic profits.

National Program on Micro-watersheds and Soil Conservation in Agriculture: conducted by the

Ministry of Agriculture, Ranching and Provisioning, this program has the main objective of promoting the integrated sustainable rural development, using the micro-watershed as planning unit, and supporting the social organization of producers as the strategy to promote better agriculture productivity and the use of environmentally, socially and economically adequate technologies. It establishes the following priority actions, among others:

- Agro-forestry and organic agriculture practices;
- Implementation of plant nurseries;
- Recomposition of riparian forests and protection of fragile areas;
- Contention and control practices for erosion gullies;
- Implementation of demonstrative projects on integrated pest management (MIP - *manejo integrado de pragas*);
- Production and dissemination of technical and educative materials;
- Support and conduction of technical events (field days, courses, workshops);
- Restoration of degraded areas;
- Introduction of No-Till Practices.

GENOMA Program: The Biotechnology and Genetic Resources program – GENOMA – of the Ministry of Science and Technology seeks to promote the development of biotechnological products and processes based on Brazilian biodiversity, in addition to the objective of conserving national genetic resources. <http://www.mct.gov.br/Temas/biotec/Programa%20Biotecnologia.pdf>

Science, Nature and Society: This program is part of the Federal Government Pluri-annual Plan 2004-2007, and is implemented by the Ministry of Science and Technology, in partnership with institutions such as the National Council for Scientific and Technological Development [*Conselho Nacional de Desenvolvimento Científico e Tecnológico* – CNPq], National Institute for Amazon Research [*Instituto Nacional de Pesquisas da Amazônia* - INPA/MCT], National Institute for Space Research [*Instituto Nacional de Pesquisas Espaciais* - INPE/MCT], Emílio Goeldi Museum [*Museu Paraense Emílio Goeldi* – MPEG], Pantanal Research Center [*Centro de Pesquisas do Pantanal* – CPP], Pure and Applied Mathematics Institute - IMPA [*Instituto de Matemática Pura e Aplicada*], Bioinformatic Scientific Computation National Laboratory [*Laboratório Nacional de Computação Científica em Bioinformática* – LNCC], Meteorological Centers connected to State governments and Civil Society, and Mamirauá Sustainable Development Institute. The program objectives are: to increase the technical-scientific knowledge on the interactions among nature, science and society, which contribute to the understanding of global change and to the improvement of human life quality; and to develop, disseminate and promote the use of scientific and technological knowledge in the management of Brazilian ecosystems and their biodiversity. Additional information available at <http://www.mct.gov.br/Temas/meioambiente/pctge/Default.htm>

Biodiversity Research Program (PPBio – Programa de Pesquisa em Biodiversidade). Created by Administrative Ruling nº 268 of 18 June 2004, from the Ministry of Science and Technology, this program has the main objectives of promoting research development, training of human resources, and the institutional strengthening for research on biological diversity, in agreement with the Directives of the National Biodiversity Policy (Decree 4339 of 22 August 2002). The specific objectives of PPBio are:

- to support the implementation and maintenance of Biota inventory networks;
- to support the maintenance, improvement and digitalization of the national biological collections (*ex situ* collections);
- to support the research and development in thematic areas of biodiversity;
- to develop strategic actions for the elaboration of policies on biodiversity research.

Additional information available at http://www.mct.gov.br/legis/portarias/268_2004.htm.es and <http://www.mct.gov.br/Temas/biodiversidade/default.asp>

Climate Change Program. Implemented by the Ministry of Science and Technology, this program is part of the Pluri-annual Plan and has the purpose of making available, to the many segments of the productive sector, estimates of the emissions of greenhouse gases, to fulfil the Brazilian engagement with the United Nations Framework Convention on Climate Change, which is the elaboration and update of the Brazilian inventory. Within this program figures the project Global Climate Change and Coral Bleaching in Brazil [*Mudanças Climáticas Globais e o Branqueamento de Corais no Brasil*]. <http://www.mct.gov.br/clima/brasil/ppaprincipal.htm>

Information System on Collections of Biotechnological Interest [*Sistema de Informação de Coleções de Interesse Biotecnológico*] – **SICol** – This project is conducted within the Biotechnology and Genetic Resources Program of the Ministry of Science and Technology, with the objectives of disseminating information on the Brazilian Biological Resource Centers, and to serve as a connecting element to the several and diverse collections of biotechnological, economic and industrial application interest. <http://sicol.cria.org.br/index>

Basic Document for a National Policy on Ocean Science and Technology – this document intends to provide the Ministry of Science and Technology with a long-range strategy to allow the ocean science and technology policy to contribute to social and economic development in Brazil. The document presents two main themes as the base to formulate the ocean science and technology policy: i) impact of the Atlantic Ocean on Brazilian climate and global change, and ii) sustainability of the Brazilian coastal marine systems. This second theme is composed by the following sub themes: threat to the Brazilian coastal biodiversity; degradation of the potential of fisheries production; conflicts between marine culture and other socio-economic activities; need for a more efficient use of the mineral resources found on the coastal zone; and natural and human impacts on the coastal zone. Thus, the conservation and sustainable use of biodiversity on the coastal zone are keystone elements for the formulation of the ocean policy. www.mct.gov.br

PRONAF: The National Program for Strengthening Family Agriculture [PRONAF - *Programa Nacional de Fortalecimento da Agricultura Familiar*] is implemented by the Ministry of Agrarian Development [MDA – *Ministério do Desenvolvimento Agrário*] with the objective of strengthening the small-scale agricultural and agro-industrial production. All proposed actions include strengthening the engagement of family agriculturists with environmental protection, biodiversity and the maintenance of cultural diversity, integrating all elements to the local dynamics. There are five million agriculture and ranching facilities in Brazil. From this total, over 4.1 million (84%) belong to family producers. Family agriculture also responds for

over two thirds of the rural jobs. From a total of 17.3 million agriculture workers, over 12 million work in a family system. The Forest PRONAF seeks to promote the adequate management of natural resources, and to stimulate planting forest species, supporting family producers in the implementation of sustainable management and multiple use projects, reforestation, and agro-forestry systems. In this manner, the program intends to respond to the demand for forest products, while preserving the national forests, restoring degraded areas, and promoting the environmental planning and regularization of rural properties. The PRONAF Agro-ecology Action Program seeks to establish strategies and support mechanisms for actions that favour the transition to, and strengthening of, an ecology-based agriculture, inserting in the family agriculture concept the ecology-based family ranching, artisanal fisheries, aquaculture, and sustainable extractive activities, stimulating successful experiences and new environmentally sustainable and economically viable initiatives. The following initiatives are developed by the Program:

- I. Capacity-building of Family Producers; Technical Assistance and Rural Extension for Family Producers
- II. Concession of Rural Credit to: rural women workers; rural youth between 16 and 25 years of age, children of family producers, artisanal fishermen, aquaculturers, extractive workers and silviculturists.
- III. Differentiated rural credit lines for:
 - agro-ecological production and projects presented by family producers in transition to agro-ecology, encouraging the adequate management of natural resources, and increasing income and life-quality of family producers;
 - Sustainable rural tourism;
 - Planting forest species, with the purpose of preserving national forests and restoring degraded areas, promoting the environmental planning and regularization of rural properties.

Additional information at: www.pronaf.gov.br

Ministry of National Integration: The programs of the Secretariat for Regional Development Policies of the Ministry of National Integration include environmental and biodiversity variables in their objectives. They are: Northeastern Region Development Program, Administration Program for the National Integration Policy, and Legal Amazon Development Program. The Secretariat for Regional Programs of the above Ministry possesses 15 other programs related to the promotion of sustainable development in several Brazilian regions. www.integração.gov.br

National Oil Agency [ANP - Agência Nacional do Petróleo]: The ANP, federal autarky under a special regime and connected to the Ministry of Mining and Energy, is the agency in charge of promoting the regulation, contracting and enforcement of the economic activities of the oil industry. The oil and natural gas extraction, development, and production activities are executed through concession contracts preceded by public bidding. The concessionaires must submit the proposed ventures to an environmental licensing process in order to execute their activities, which are considered effectively or potentially polluting. The environmental licence for marine activities of the oil industry (seismic data collection, exploration, drilling, production for research, and oil and natural gas production) is issued by IBAMA, through the Licensing Office for Oil and Nuclear Activities [ELPN - *Escritório de Licenciamento das Atividades de Petróleo e Nuclear*], created by Administrative Ruling nº 166-N, of 15 December 1998. In addition to re-

quiring a licence for conducting oil activities, the ANP holds operating agreements with several institutions to develop new technologies and procedures that support the rational use of natural resources and preservation of the environment. www.anp.gov.br

Program for Incentives to Alternative Energy Sources [PROINFA – Programa de Incentivo a Fontes Alternativas de Energia Elétrica]: executed by the Ministry of Mining and Energy [MME – *Ministério de Minas e Energia*], this program seeks to diversify the national energy matrix, ensuring greater reliability and safety to energy provisioning. Created on 26 April 2002, through Law n° 10438, the PROINFA was revised by Law n° 10762 of 11 November 2003, which ensured the participation of a greater number of states in the Program. The production of 3.3 thousand MW from renewable sources will double the participation of the wind, biomass, and small hydroelectric power plants in the Brazilian energy matrix, which are presently responsible for 3.1% of the total production and, in 2006, may reach 5.9%. In Brazil, 41% of the energy matrix comes from renewable sources, while the global average is 14% and the developed countries average is only 6%, according to data from the National Energy Balance - edition 2003. The insertion of new renewable energy sources will avoid the emission of 2.5 million tons of carbon dioxide/year, increasing business possibilities in terms of Certified Carbon Emission Reduction, as described in the Kyoto Protocol. <http://www.mme.gov.br/Proinfa/default.asp>

Technical Cooperation Term between the Ministry of the Environment and Ministry of Transportation: This agreement has the objective of joining efforts from both Ministries to implement an environmental agenda for the transportation sector, which should be compatible with the sustainable development premises.

Environmental Directives of the Ministry of Transportation: These directives predict a series of actions concerning environment protection. Among these, the directives which are directly connected to biodiversity refer to requiring an environmental licence for the construction of railroads, waterways and highways, with the purpose of reducing impacts to the environment caused by their construction and use. For example, actions are predicted to protect biomes and ecosystems from the impact caused by highways, as a response to the concern about the impacts they cause on the biotic environment. The creation of parkways is also predicted, as a means of harmonizing biodiversity conservation, transportation and tourism. The protection of biodiversity is also contemplated in the procedures for implementing environmental management at ports, which establish as directives, among others: the conciliation of port management with the process of Coastal Management, through administration instruments such as the Coastal Ecological and Economic Zoning and the Management Plans, especially regarding activities related to expanding port areas; and conciliation of the Port Development and Zoning Plans with the municipal, metropolitan and other land use planning and regularization plans, as well as with other specific plans such as those establishing conservation units, for example. www.transportes.gov.br/cpma

Kaiapó Project (Ministry of Tourism): the project aims at implementing an ethno-ecologic tourism project in the Kaiapó indigenous land, located in the south of the Amazon basin. According to the Evaluation and Identification of Priority Actions for Conservation, Sustainable Use and Distribution of Benefits from Biodiversity, conducted by the Ministry of the Environment, part of the Kaiapó Indigenous Land is included among the priority areas for biodiversity conservation, where biological inventories are

recommended, as well as the management of existing or future conservation units. The following activities concerning tourists are predicted in the project: learning indigenous handcrafts, learning about the use of local flora, hiking on ecological trails, beach activities, wildlife and vegetation observation, boat rides, photographic tours, among others. It is important to stress that the need to apply special care in the activities that involve indigenous traditional knowledge is being considered, to avoid biopiracy and improper registration of patents. www.turismo.gov.br

Biotechnology Program: Program within the Federal Government Pluri-annual Plan, executed by the Ministry of Science and Technology. The political actions that promote biotechnology development in the country are encompassing, involving all biotechnology segments in all regions of the country, supporting projects and activities related to the sustainable use of biodiversity, which aim at profiting from regional and local opportunities to diversify/increase the innovation base, make biotechnology more competitive and/or generate products/processes/services in a sustainable manner, and contribute to improve life quality of Brazilian society. Among the implemented actions, the following are highlighted:

National Genome Network Project – aims at increasing national competency in the genome research activities. It involves 25 molecular biology laboratories, distributed through all geographic regions of the country, and counts with the support of the Bioinformatic Scientific Computation National Laboratory [LNCC – *Laboratório Nacional de Computação Científica em Bioinformática*]. The project has already obtained the sequencing of the genomes of: i) the bacterium *Chromobacterium violaceum*, a free-living organism with characteristics of environmental, industrial and human health interest; ii) the *Mycoplasma synoviae*; and iii) research on functional and comparative genomes of the bacteria *Mycoplasma synoviae* and *Mycoplasma hiopneumoniae*.

Regional Genome Projects Network – intended to support the implementation of regional networks to conduct genome studies of organisms of social, economic and regional interest. Presently, ten research networks are organized and dedicated to the study of the structural and functional genome of organisms of interest for health and agriculture: Mid-West Network, Minas Gerais State Genome Network, Northeast Genome Network [ProGene – *Rede Genoma do Nordeste*], Implementation of the Paraná Molecular Biology Institute Program, Paraná State Genome Program [GenoPar – *Programa Genoma do Estado do Paraná*], Rio de Janeiro State Implementation Program of the Genome Network [RioGene – *Programa de Implantação da Rede Genoma do Estado do Rio de Janeiro*], Bahia State Genomic Network, Legal Amazon Genomic Research Network [REALGENE – *Rede Amazônia Legal de Pesquisas Genômicas*], South Program of Genome Research [PIGS – *Programa de Investigação de Genomas Sul*], and Mato Grosso do Sul Genome Network [ANAPLASMA – *Rede Genoma do Mato Grosso do Sul*].

National Proteome Network Project – has the objective of promoting the basis for the development of a national network of research laboratories to study proteome, focusing on the identification of bioactive molecules and biological markers that may be used in the production of new therapeutic drugs or new instruments for clinical diagnosis. The potential of our biodiversity may be approached by proteomic studies of secretions and venoms from our varied wildlife, in the search for natural bioactive products with potential medical or biotechnological applications. State Proteomic Research Networks are being implemented in 12 states. In addition, to support the implementation of the state networks, several training courses on advanced techniques of proteomic research were already conducted.

Brazilian-Argentine Center for Biotechnology [CBAB - *Centro Brasileiro–Argentino de Biotecnologia*] possesses the mission to promote integration for the scientific and technological development in activities common to both countries. Since its creation, the CBAB has already conducted about 210 short courses at post-graduation level, and organized symposia and workshops with the attendance of 3,000 Brazilian, Argentine, and other Latin-American participants.

Participation in the activities of the International Center for Genetic Engineering and Biotechnology [ICGEB - *Centro Internacional de Engenharia Genética e Biotecnologia*] – has the objective of promoting biotechnological projects and short- and long-term training courses, as well as events to strengthen the scientific base of the signatory countries. Among the addressed themes are: genome dynamics and evolution; risk assessment of transgenic organisms; and bioinformatics applied to biotechnology and biodiversity.

Contracting of biotechnology studies – with the objective of mapping the potential and obstacles to the development of biotechnology, such as human resources training, existing infrastructure, international cooperation, the national businesses, and the biotechnology market in Brazil. Another objective is the elaboration of documents on the biotechnology trends in the industrial sector and in the scientific community, as well as documents on instruments to support the definition of biotechnology policies.

Support to the Project: Information System on Collections of Biotechnological Interest [SICol - *Sistema de Informação de Coleções de Interesse Biotecnológico*] – aims at disseminating information on Biological Resource Centers in Brazil and structure an information system to serve as a connecting element to the several and varied collections of biotechnological, economic and industrial interest. Includes the development of the Virtual Catalogue, which presently contains data on the following collections: *Bacillus* spp. Germoplasm Bank for Biological Control; Diastrophic Bacteria Culture Collection; Brazilian Collection of Environmental and Industrial Micro-organisms; Culture Collection of Phytopathogens and Phytopathogen Biological Control Agents; Entomopathogenic Fungi Culture Collection; Phytobacteria Culture Collection of the Plant Bacteriology Laboratory; Oswaldo Cruz Culture Collection of the National Institute for Health Quality Control; Fungi Culture Collection of the Oswaldo Cruz Institute, and Culture Collection of the *Bacillus* Genus and Related Genera. SICol also keeps updated information on the number of specimens (cultures) maintained by each collection in this database (additional information at: www.sicol.cria.org.br); publication of the document Evaluation System for Biological Material Compliance [*Sistema de Avaliação da Conformidade de Material Biológico*] (www.mct.gov.br/biotecnologia).

Biosafety of genetically modified organisms (GMOs) – Participation on the decisions of the National Technical Commission on Biosafety [CTNBio – *Comissão Técnica Nacional de Biossegurança*]; collaboration to the elaboration of the Brazilian delegation proposal for the regulation of the Cartagena Protocol; presentation of a proposal to GEF to coordinate the project :Building Capacity for Effective Participation in the Biosafety Clearing House (BCH) of the Cartagena Protocol; suggestions presented to the elaboration of the Biosafety Legislation Project (Law nº 11105, of 24 March 2005); support to the Embrapa Biosafety Network.

Information at: www.mct.gov.br/biotecnologia .

16. Are migratory species and their habitats addressed by your country's national biodiversity strategy or action plan (NBSAP)? (decision VI/20)	
a) Yes	
b) No	X
I) If YES, please briefly describe the extent to which it addresses	
(a) Conservation, sustainable use and/or restoration of migratory species	
(b) Conservation, sustainable use and/or restoration of migratory species' habitats, including protected areas	
(c) Minimizing or eliminating barriers or obstacles to migration	
(d) Research and monitoring for migratory species	
(e) Transboundary movement	
II) If NO, please briefly indicate below	
<p>The highly migratory pelagic species such as tunas and tuna-like species are constantly considered in the fisheries development strategy promoted by the Special Secretariat for Aquaculture and Fisheries of the President's Office. The tunas and tuna-like species are resources exploited by several countries, since their populations are located in the open oceans. The International Commission for the Conservation of Atlantic Tunas – ICCAT – is the entity responsible for the administration of the tuna stocks of the Atlantic Ocean, and Brazil, as a signatory party, adopts the adequate conservation measures established by the agreement, with the objective of keeping the populations of tuna and tuna-like fishes at levels that allow a sustainable exploitation. Additional information at http://www.planalto.gov.br/seap/</p> <p>The National Banding System (CEMAVE/IBAMA) allows the monitoring of Brazilian birds, including the migratory species.</p> <p>The CEMAVE conducts the following projects with migratory birds:</p> <ul style="list-style-type: none"> - Monitoring the Neartic and Neotropical Birds of the National Park Lagoa do Peixe; - Monitoring the neartic birds of the Environmental Protection Area (APA) Reentrâncias Maranhenses; - Migration of Red Knots in South America 1996 - 2000: ecological research to support the conservation of the longest bird flights on Earth", developed in cooperation with the Centre for Biodiversity and Conservation Biology/Royal Ontario Museum; - Pantanal Wetland Birds: A survey of neartic shorebirds and other waterfowl of the Brazilian Pantanal, with the collaboration of the Canadian Wildlife Service, World Wildlife Fund/Canada and support from the Interamerican Development Bank. <p>Brazil is part of the Hemispheric Shorebird Reserves Network</p>	

Biodiversity and Climate Change

17. Has your country implemented projects aimed at mitigating and adapting to climate change that incorporate biodiversity conservation and sustainable use? (decision VII/15)

- | | |
|---|-------------------------------------|
| <ul style="list-style-type: none"> • No | <input type="checkbox"/> |
| <ul style="list-style-type: none"> • No, but some projects or programs are under development | <input checked="" type="checkbox"/> |
| <ul style="list-style-type: none"> • Yes, some projects have been implemented (please provide details below) | <input type="checkbox"/> |

Further comments on the projects aimed at mitigating and adapting to climate change that incorporate biodiversity conservation and sustainable use.

The project **Global Climate Change and its Impacts on Brazilian Ecosystems**, supported by the Conservation and Sustainable Use of Brazilian Biodiversity Project (PROBIO), elaborates a project proposal to define, through successive approximations, the impacts caused by global climate change on Brazilian ecosystems, with the purpose of identifying: (1) alteration trends in the distribution of terrestrial biomes; (2) internal alteration trends in terrestrial ecosystems; (3) effects of sea level rise and ocean warming on coastal ecosystems. This project will be executed by the Brazilian Foundation for Sustainable Development [FBDS – *Fundação Brasileira para o Desenvolvimento Sustentável*]. Additional information at www.mma.gov.br and www.fbds.org.br.

Climate Change and Environment Program. Included in the Federal Government Pluri-annual Plan, this program has the objective of promoting the control of polluting activities, thus contributing to improve environmental quality and to reduce the effects of these pollutants on global climate. This program aims at making available, to the many segments of the productive sector, estimates of the emissions of greenhouse gases, to fulfil the Brazilian engagement with the United Nations Framework Convention on Climate Change, which is to elaborate and update the Brazilian inventory. The program is executed by the Ministry of the Environment and the Ministry of Science and Technology. Additional information at <http://www.mct.gov.br/clima/brasil/ppaprinicipal.htm> .

Project **Global Climate Change and Coral Bleaching in Brazil** [*Mudanças Climáticas Globais e o Branqueamento de Corais no Brasil*]. This project results from an operating agreement signed between the Ministry of Science and Technology [MCT – *Ministério da Ciência e Tecnologia*], the Federal University of Bahia [UFBA – *Universidade Federal da Bahia*], and the Research and Extension Support Foundation [FAPEX – *Fundação de Apoio à Pesquisa e Extensão*], within the MCT Climate Change Program. The project has the purpose of elaborating a technical-scientific study to evaluate the effects of the sea water temperature increase – related to global climate change – on the photo-symbiont organisms in corals, the loss of which causes corals to bleach, as well as the capacity of these corals to tolerate and/or adapt to these abrupt environmental changes.

A technical report containing the first results of the monitoring of coral bleaching occurrences in the state of Bahia was presented in December 2003 (see attached file, in site indicated below). According to this report, coral bleaching in the reefs of Bahia is a recurring process related to El Niño effects, which has been recorded since the summer of 1993/1994. In 2003, bleaching was moderate and short-lasting. Return visits to the research stations are programmed, to monitor the bleaching process and the recovery of

the affected corals. The endemic species are significantly affected by bleaching. In previous occasions, no mortality associated to this phenomenon was observed in corals. The project is still underway. Information: http://www.mct.gov.br/clima/brasil/pdf/Branqueamento_corais.pdf .

State Program for Incentives to the Production of Hardwoods (São Paulo). The São Paulo state government created this program through Decree 46818 of 10 June 2002. The basic conception of the program is to transform hardwoods into financial asset through market mechanisms. While the wood lot grows and trees cannot yet be cut, it serves as carbon sequestration tool, contributing to improve environmental and ecological quality, thus generating direct benefits to biodiversity. The standard wood lot is composed by hardwood species from our native forests such as *Astronium*, *Pterogyne*, *Aspidosperma*, *Tabebuia*, *Balphourodendron*, *Astronium graveolens*, and *Hymenaea*, associated to fruit-bearing trees, which directly benefit the local fauna. The standard wood lots already implemented are generating research on models and management for native wood production, and also research on absorption and fixation of CO₂ by native forests producing wood of high commercial value. The program has already been joined by the Forestry Institute, Paula Souza Foundation, São Paulo State Land Institute [ITESP – *Instituto de Terras do Estado de São Paulo*], Secretariat for Agriculture, and paper industries. During the first phase of the program, 270 hectares of standard wood lots were planted, and currently new wood lots are being planted in different municipalities within the state.

18. Has your country facilitated coordination to ensure that climate change mitigation and adaptation projects are in line with commitments made under the United Nations Framework Convention on Climate Change and the United Nations Convention to Combat Desertification? (decision VII/15)

a)	No	
b)	No, but relevant mechanisms are under development	X
c)	Yes, relevant mechanisms are in place (please provide details below)	

Further comments on the coordination to ensure that climate change mitigation and adaptation projects are in line with commitments made under the UNFCCC and the UNCCD.

See comments in Questions 11, 15 and 17.

Synergy of the Three Conventions Project – Convention on Biological Diversity, United Nations Convention to Combat Desertification, and United Nations Framework Convention on Climate Change – GEF project, in preparation, with the objective of conciliating the implementation of these 3 environmental conventions in Brazil.

Box II.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;

- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) Considering that the National Biodiversity Strategy (NBS) is recent, the period of 2002-2005 was important for its establishment as planning authority on biodiversity management in Brazil. The elaboration of action plans for implementation of the National Biodiversity Policy, currently under development, will reinforce the role of the National Strategy as coordinator of different social sectors, aiming at CBD implementation in the country. Independently from NBS, it is noticeable that biodiversity conservation is being slowly incorporated into activities from other sectors of society, including those that cause environmental damage. Outcomes also include the legal instruments: Administrative Ruling MMA n° 126, which recognizes the priority areas for conservation, sustainable use and distribution of benefits from biodiversity; the National Environmental Education Program, instituted by Law 9795/99 and regulated by Decree 4281/02 (see comments in question 91).
- b) The implementation and strengthening of NBS is a direct contribution to goal 3 of the CBD Strategic Plan: National biodiversity strategies and action plans and the integration of biodiversity concerns into relevant sectors serve as an effective framework for the implementation of the objectives of the Convention.
- c) The implementation and strengthening of NBS also contributes to goal 11 of the 2010 targets: *Parties have improved financial, human, scientific, technical and technological capacity to implement the Convention.*
- d) See comments in item a.
- e) The National Biodiversity Strategy contributes to reaching objective 9 (Integrate the principles of sustainable development into country policies and programmes; revert loss of environmental resources) of goal 7 (ensure environmental sustainability) of the MDGs.
- f) The lack of coordination among governmental sectoral actions places difficulties to the coordination for conservation and sustainable use of biodiversity. The limited public participation and player involvement, limited encompassing application of biodiversity by other civic spheres, and weakened institutions, cause the lack of capacity for action, lack of human resources, lack of knowledge on biodiversity loss and loss of goods and services provided by biodiversity, incomplete use of scientific and traditional knowledge, insufficient information dissemination at the national and international levels, and lack of public education and awareness at all levels.

Article 7 - Identification and monitoring

19.	On Article 7(a), does your country have an ongoing programme to identify components of biological diversity at the genetic, species, ecosystem level?
<ul style="list-style-type: none"> • No • Yes, selected/partial programmes at the genetic, species and/or ecosystem level only (please specify and provide details below) • Yes, complete programmes at ecosystem level and selected/partial inventories at the genetic and/or species level (please specify and provide details below) 	<input type="checkbox"/> <input checked="" type="checkbox"/> X <input type="checkbox"/>
Further comments on ongoing programmes to identify components of biodiversity at the genetic, species and ecosystem level	
<p>See comments in Question 29.</p> <p>REVIZEE Program: This program has the main objective of evaluating the sustainable potential for capture of the living resources in our Exclusive Economic Zone [ZEE – Zona Econômica Exclusiva], which begins at the exterior limit of the Territorial Sea (12 miles wide) and ends 200 nautical miles off the coast, encompassing approximately 3.5 million square kilometers. The REVIZEE is a result from the compromise undertaken by Brazil, after ratifying in 1988 the United Nations Convention on the Law of the Sea (in effect since 16 November 1994), and after incorporating its concepts into our national legislation through the Constitution of 1988 and Law nº 8617, of 04 January 1993. The Program is fundamental to ensure the country's sovereign rights of exploiting, using, conserving and managing the living resources in our ZEE, within the principles of the sustainable use of marine resources.</p> <p>The REVIZEE will provide to our fisheries activities the information required by this highly important socio-economic sector. Such relevance is characterized by the generation of approximately 800,000 jobs, and the involvement of approximately 4 million people who depend, directly or indirectly, on this sector, in addition to providing one of the main sources of protein for the population. Therefore, the fisheries sector requires adequate planning, regularization and management, based on consistent and updated technical-scientific data to support the development of appropriate conservation and management policies for the sector. Additional information at www.mma.gov.br.</p> <p>Biodiversity Research Program (PPBio). See comments in question 15.</p> <p>The Special Secretariat for Aquaculture and Fisheries of the President's Office contributed to the identification of species composing the fisheries resources within the Brazilian jurisdictional waters, by allowing the activities of foreign fishing vessels using capture technologies not yet applied by the national fleet. The results of these fishing activities, in form of information and biological samples, was made available to the scientific community, with the purpose of increasing our knowledge on the living resources present on the continental platform and within the exclusive economic zone, as well as to evaluate the size of their stocks. Additional information at http://www.planalto.gov.br/seap/</p>	

BIOTA Program/FAPESP: The main objectives of the BIOTA-FAPESP are to conduct the inventory of, and characterize, the biodiversity within the state of São Paulo, defining mechanisms for its conservation, economic potential, and sustainable use. The program conducted taxonomic reviews in the state for the following groups: Mites; Algae; Amphibians; Birds; Bryophytes; Phanerogams; Lichenous Fungi; Macroscopic Fungi; Insects and Arachnids; Fresh Water Invertebrates (non-planktonic); Marine Invertebrates; Mammals; Micro-organisms: Bacteria, Filamentous Fungi and Yeasts; Nematodes; Fishes; Terrestrial Plantaria; Phoronids, Gastrotrichids and Kinorhynchids; Pteridophytes; Viruses; lacustrine Zooplankton. Presently, BIOTA has 32 projects being implemented, 13 completed projects and 4 under evaluation. Additional information at www.biota.org.br.

BIOTUPÉ Project: conducted by the Amazon Research Institute [INPA – *Instituto Nacional de Pesquisa da Amazônia*], this project results from the joint efforts of researchers from several institutions. It is a proposal for a long-term multidisciplinary study, currently under way at the Tupé Area of Relevant Ecological Interest (*ARIE do Tupé*), in the Amazon. The main objectives of the project are to conduct a biological inventory to identify and quantify biodiversity in this area. The following aspects are being studied: vegetation, hydrology, hydrochemistry, zooplankton, phytoplankton, sponges, fishes, coliforms, aquatic insects, phytoplankton primary production, interstitial crustaceans, resource use, and socio-environmental studies. Additional information at <http://biotupe.inpa.gov.br>.

Ducke Reserve Flora Project: This reserve was selected for being one of the better sampled areas of the Amazon forest, as botanical collections have been conducted in the area since the 1950s, and specially due to its location in Central Amazon, at the confluence of different phytogeographical regions. In five years of project, approximately 5,000 woody plants were recorded, among lianas and trees, with a total of 1,327 species listed up to May 1998. All of the voucher specimens were deposited in the INPA herbarium and duplicates were distributed to several other herbaria such as the Goeldi Museum (MG), Kew Gardens (K), Botanical Gardens (RB) and Botanical Institute (SP). A field guide was elaborated to allow the identification of vascular plant species of the Ducke Reserve. The Ducke Reserve Florula will also be elaborated for the specialized public, which will be the first florula on the Brazilian Amazon. Additional information at <http://curupira.inpa.gov.br/projetos/ducke/index.html>.

Atlantic Forest Program [PMA – *Programa Mata Atlântica*] of the Rio de Janeiro Botanical Gardens Research Institute [JBRJ – *Jardim Botânico do Rio de Janeiro*]: the objective of the program is to generate information and taxonomic knowledge on the Atlantic Forest, aiming at the conservation of the biome. The Program is composed of three large projects, as follows: 1) Plant and Environmental Inventories, 2) Vegetation Recomposition, and 3) Atlantic Forest Services and Information Center (CISMA - *Centro de Informações e Serviços da Mata Atlântica*). The Program has also an important role in the training of human resources, especially through involvement in the Post-Graduate Program on Botany of the National School of Tropical Botany (ENBT-JBRJ – *Escola Nacional de Botânica Tropical*). The research projects developed within the three large projects mentioned above are conducted at Brazilian protected areas (Conservation Units). Some of these research projects are: the studies in the PARNA (National Park) Itatiaia (plant inventory, anatomic and reproductive biology studies); in the REBIO (Biological Reserve) of Poço das Antas (effects of habitat fragmentation, biodiversity and traditional knowledge of rural communities),

in the REBIO União (effects of fragmentation and forest dynamics), at the Saracuruna Dam (botanical and anatomy studies) and in REBIO Tinguá (botanical studies and border effect on tree community structure). The Vegetation Recomposition Project evaluates Ecological and Edaphic Indicators and monitors the Planting of Native Tree Species (monitoring their re-establishment) in REBIO Poço das Antas. The CISMA Project develops the Georeferenced Cartographic Base of the PMA (BaseGeo). Among the products already generated, the numerous scientific publications and information materials issued through different media deserve special mention. The Program initiated in December 2002 and should operate until December 2005, funded by the Rio de Janeiro Botanical Gardens, with support from Petrobrás. Additional information at www.jbrj.gov.br.

Ecological studies on the *canga* vegetation in Carajás – genetic conservation and restoration of degraded areas: The Geographic Information System of the Carajás National Forest mapped approximately 9,031.54 ha (2.2% of the area) of *canga* vegetation. During the 1980s, through an operating agreement between the Vale do Rio Doce Company [CVRD – *Companhia Vale do Rio Doce*] and the Goeldi Museum, a group of researchers initiated the work that currently constitutes the base of the botanical knowledge on this vegetation. During this new phase of the studies being developed by the Vale do Rio Doce Environmental Institute - IAVRD, efforts are being applied towards generating knowledge on the genetic conservation of species that occur on the Carajás Mountain Range, through the physiognomic, botanical and phytosociological inventories of the *canga* areas, as well as the identification of species with potential economical use and/or for the restoration of degraded areas. These studies will provide information for the preparation of several scientific articles, as well as a manual for the botanical and physiognomic identification of this vegetation. The project is executed by the Vale do Rio Doce Environmental Institute (IAVRD), has the duration of 4 years (2002-2006), and is funded by CVRD.

Multi-taxa Inventory of Caxiuanã: executed by the Goeldi Museum, the project has the following objectives:

Estimate the biotic diversity of the Caxiuanã National Forest through inventories of selected plant, fungi and animal groups; identify the richness and distribution pattern of species; and discover new taxa for Science, contributing to phylogenetic, biogeographical and conservation studies on these taxa.

Produce and disseminate general information and summary articles on the area's diversity, species lists, description of new species, interactive identification keys, monographies and taxonomical revisions, and electronic databases with free internet access, as well as traditional printed databases.

Strengthen the Caxiuanã National Forest as a conservation unit, promoting the Ferreira Pena Scientific Station as an important scientific research center, and providing vital information for the National Forest management plan to IBAMA.

Additional information at http://www.museu-goeldi.br/biodiversidade/proj_caxiuanã.asp

PROBIO Cachimbo - Landscapes and Biodiversity: An Integrated Perspective for the Inventory and Conservation of the Cachimbo Mountain Range: This project proposes to: (A) increase knowledge on biodiversity of the Cachimbo Mountain Range through an integrated analysis of the geographic patterns of the landscape mosaics and associated diversity, and (B) indicate and prioritize areas of high biodiversity, with direct influence on the regional strategies and policies for the conservation of the Ama-

zon Southeast. The studies are being conducted by a multidisciplinary and interinstitutional team that involves researchers from the Emílio Goeldi Museum, University of Brasília, Pro-Carnivores Association (*Associação Pro-Carnívoros*), and Conservation International of Brasil. The following results are expected:

- Biological and environmental database of the study areas;
- Thematic maps on the distribution of the South-eastern Amazon biodiversity in the studied region;
- Priority maps by biological group and by category of importance to conservation;
- Ecological and spatial analyses;
- Technical reports and final report in the form of book and CD-ROM for dissemination.

Additional information at http://www.museu-goeldi.br/biodiversidade/proj_cachimbo.asp

Conserve-Action Project (*Projeto Conserv-Ação; Votorantim Cellulose and Paper - VCP*): This project has the objective of studying the remaining native forests on the VCP properties, to propose actions that will contribute to the maintenance of biodiversity present in our ecosystems. The project conducts the following activities:

- Identification of the remaining fragments of native vegetation (location, size, shape, ecosystem type);
- Tree inventory;
- Birds inventory;
- Small and large mammals inventory;
- Monitoring of species in disequilibrium;
- Monitoring of forest dynamics along time.

To date, 350 tree species were listed, as well as 200 bird species and 40 mammal species. Several of these species are endangered or were recorded as new occurrences for the state of São Paulo.

<http://www.vcp.com.br/Meio+Ambiente/Projetos+Ambientais/default.htm>

Brazilian **GENOMA Project** – funded, in the state of São Paulo, by the São Paulo State Research Support Foundation [FAPESP – *Fundação de Amparo à Pesquisa do Estado de São Paulo*], and in Brazil by the National Research Council [CNPq – *Conselho Nacional de Desenvolvimento Científico e Tecnológico*] and the Ministry of Science and Technology [MCT – *Ministério de Ciência e Tecnologia*]. This project promotes the genetic sequencing of organisms. Additional information at www.fapesp.br.

The **O Boticário Foundation** contributes to the strengthening of the National System of Conservation Units through the generation and distribution of information on the Brazilian protected areas. This project is expected to evaluate the effectiveness of Brazilian conservation units in the fulfilment of their objectives, i.e., if they are actually conserving the ecosystems they contain, and if the extent of the National System is appropriate. The information is generated through a standardized method (ParksWatch program: www.parkswatch.org), which allows comparisons with results of similar projects conducted in other Latin American countries. Opportunities and threats are identified, followed by recommendations to deal with these issues. The results are made available to the general public and especially to the staff responsible for the management of conservation units who, with this information, may redirect their actions. This process allows the Brazilian conservation units to increase effectiveness, fulfilling their role of protecting Brazilian

biodiversity and landscapes.

Forestry Inventory of the Natural Vegetation of São Paulo State. This project was executed by the São Paulo State Forestry Institute, and conducted the following activities:

- Identification, mapping and quantification of the natural vegetation cover in São Paulo state.
- Structuring of the electronic georeferenced database into Geographic Information System (GIS), to allow continuous monitoring of the remaining vegetation.
- Support of the elaboration of Management Plans for the Conservation Units of Integral Protection, and of Sustainable Use.
- Support of the Coastal Atlantic Forest Management System [SIGMA – *Sistema de Gerenciamento da Mata Atlântica Litorânea*].

The main results obtained by the project were:

- Production of an electronic georeferenced cartographic database containing the inventories of the natural vegetation of São Paulo state, as well as basic and thematic inventories conducted in Conservation Units.
- Production of Municipal Forestry Maps of the 645 municipalities of São Paulo state.
- Book in press: KRONKA, J. F. N. et al. 2004. Forestry Inventory of the Natural Vegetation of São Paulo State – (Diagnosis of the status of the natural vegetation cover of São Paulo state; dissemination of the technical-scientific work developed by the Forestry Institute, making these data available to other researchers, and to public and private entrepreneurs responsible for environmental planning and protection). Start date: 2003 / End date: 2004
- **Plants of the Cerrado of São Paulo State: Images of a Threatened Landscape** [*Plantas do Cerrado Paulista: Imagens de uma Paisagem Ameaçada*]. This book is the result of several different research projects developed by the authors, with funds from FAPESP, JICA and Forestry Institute, in the remaining Cerrado fragments of the state of São Paulo. It includes 443 species of the Cerrado biome that occur in the state of São Paulo, is largely illustrated, and contains plant descriptions for easy recognition in the field, thus being an excellent field book for both laymen and environmental professionals. The book has a strong educational appeal, since it enhances the importance and diversity of this threatened biome.
- **Project for the Preservation of the Atlantic Forest** [PPMA – *Projeto de Preservação da Mata Atlântica*]. This project aims at the conservation and sustainable management of the biodiversity contained in the remaining fragments of the Atlantic Forest and associated ecosystems in the state of São Paulo (52 municipalities). The total area of the project is 22,000 km², with a population above 1,500,000 inhabitants.
- Warranty, Arbitration, Lending and Financial Contribution Contract (date of signature: 17 December 1993, additive term of 28 June 2001), signed between the state government of São Paulo (State Secretariat for the environment) and KfW. Implementation period: July/1995 to July/1999, extended until December 2006. Main actions:
 - Re-equip the executing units.
 - Implementation of infrastructure works.
 - Establishment and implementation of the Control Operational Plan [POC – *Plano Operacional*]

de Controle] as a means to coordinate environmental monitoring and licensing actions.

- Planning of Joint Enforcement Operations between PPMA/SP and the *Pró-Atlântica* program of Paraná state (cooperation with the German bank KfW, to organize the structure of the official institutions in charge of protecting the Atlantic Forest).
- Establishment of the Atlantic Forest Management System [SIGMA – *Sistema de Gerenciamento da Mata Atlântica*] with electronic georeferenced information, shared on line, on 23,867 km² of Atlantic Forest.
- Elaboration/ update of the Management Plans of all Conservation Units within the area of PPMA implementation.
- Creation of the Advisory Committees (Committees for Management Support), as mechanisms to allow effective social participation in the decision-making process about the implementation of activities in the Conservation Units.
- Capacity-building of the technical and administrative staff of the institutions involved in the project.
- Out-sourcing of the Activities involving Public Visitors in the Conservation Units, with the elaboration of studies to identify what and how to exploit the tourism potential of the Conservation Units, aiming at attaining their financial sustainability.
- Dissemination of the Atlantic Forest Ecosystem, through the insertion of information in specialized publications, and preparation and distribution of folders and institutional videotapes.

Selection of Reserves for the Conservation of the Cerrado in the State of São Paulo. See comments in Question 37.

Creation of New Conservation Units in the State of São Paulo. See comments in Question 37.

20. On Article 7(b), which components of biological diversity identified in accordance with Annex I of the Convention, have ongoing, systematic monitoring programmes?

a) At ecosystem level (please provide percentage based on area covered)	X
b) At species level (please provide number of species per taxonomic group and percentage of total known number of species in each group)	X
c) At genetic level (please indicate number and focus of monitoring programmes)	X

Further comments on ongoing monitoring programmes at the genetic, species and ecosystem level.

SIBRAGEN – Brazilian Information System on Genetic Resources [*Sistema Brasileiro de Informação de Recursos Genéticos*]: information system with a centralized database, accessible online, and containing information on germoplasm international transportation permits, enrichment, conservation, characterization, evaluation, and interchange. Data input and maintenance are decentralized and executed by the curators of germoplasm banks. A collection of integrated technologies are applied, such as: information system, databases, communication network, and Web technologies. This initiative supports research and de-

velopment, and is part of the activities involving genetic resources and part of the Curatorship System of Germoplasm Banks, through the Documentation and Digitalization of Genetic Resources. It is being developed by Embrapa Genetic Resources and Biotechnology since 1996, and represents a restructuring of the Information System on Genetic Resources. The technologies being applied allow the integration of the Embrapa Base Collection with other collections maintained at Decentralized Units and with the activities developed by these Units, making the entire information available to other institutions interested in genetic resources.

PRODES PROJECT (Satellite Monitoring of the Brazilian Amazon Forest): executed by the National Institute for Space Research [INPE – *Instituto Nacional de Pesquisas Espaciais*] (www.inpe.gov.br), this project aims at monitoring deforestation in the Brazilian Amazon region. Since 1989, INPE has been producing annual estimates of the deforestation rates in the Legal Amazon region. Since 2003, these estimates are produced through digital classification of satellite images. The most recent data published by INPE are:

- Year 2001-2002: Deforestation rates obtained through the classification of 155 LANDSAT images, corresponding to 99% of the entire forested area in the Amazon region. The total deforestation rate confirmed by INPE for the period from August 2001 to August 2002 is 23,260 km².
- Year 2002-2003: Deforestation rates obtained through the classification of 75 LANDSAT images of the region suffering greater deforestation intensity. Based on the recent historical data of these critical areas, INPE estimates the deforestation rate for the period from August 2002 to August 2003 to be 23,750 km², with a 4% error margin.

The results from PRODES are available to the Brazilian community. The available data include: (a) Satellite images by LANDSAT scene (orbit/point); (b) Thematic deforestation maps, containing the basal data of 1997, and increments for the periods of 1997-2000, 2000-2001, 2001-2002, and 2002-2003. Additional information at <http://www.obt.inpe.br/prodes/>

Amazon Protection System [SIPAM – *Sistema de Proteção da Amazônia*]: SIPAM is a systemic organization for the production and broadcasting of information, composed by a complex technological base and an integrated institutional network, acting throughout the Legal Amazon region within the federal, state, municipal, and non-governmental spheres. It manages knowledge, protection, and sustainable human development in that region. SIPAM's technological base consists of an advanced system of technical means, composed by sensorial subsystems integrated by satellite, data collection platform, meteorological stations, vigilance aircrafts, and radar and communication stations, installed and operational at all nine states of the Legal Amazon region. This infrastructure permanently produces real-time data on all movement and situations that occur in the region, monitoring soil, air and water. Among other activities, SIPAM locates clandestine landing strips and illegal extraction of natural resources; protects the environmental protection areas; prevents endemic and epidemic disease outbreaks; controls land occupation and use; conducts territorial planning; conducts agricultural planning; identifies deforested areas; protects indigenous lands; protects mineral provinces; controls mineral prospect areas; maps watersheds; implements a database on Amazonian biodiversity; evaluates environmental risks and damages; supports research and sustainable development activities in the region; identifies forest fires and deforestation and support their combat; controls pollution in the Amazon basin; monitors greenhouse gases; classifies vegetation and atmospheric characteristics. To manage this process, in April 2002 the Brazilian government created the CENSIPAM –

SIPAM Managing and Operations Center – which is strategically connected to the Office of the Chief Staff of the Presidency of the Republic, with its General Administration based in Brasília. Additional information at www.sipam.gov.br

Orbital Fire Monitoring (QUEIMADAS Project): executed by the Brazilian Agricultural and Livestock Research Company - EMBRAPA Satellite Monitoring, in partnership with NGO Ecoforça. Since 1991 and with the support of the São Paulo State Research Support Foundation [Fapesp – *Fundação de Amparo à Pesquisa do Estado de São Paulo*], this project conducts the circumstantial and effective monitoring of all forest and rural fires in Brazil, combining remote sensing, digital cartography, and electronic communication. The combined teams of Ecoforça and Embrapa Satellite Monitoring elaborated computer programs and procedures, which organize into maps all NOAA satellite data transmitted by the National Institute for Space Research, which are analyzed in the city of Cachoeira Paulista. Additional information at <http://www.queimada.cnpm.embrapa.br>

Map of the Vegetation Cover of Brazil: elaborated by the Brazilian Agricultural and Livestock Research Company - EMBRAPA Satellite Monitoring, it uses the SPOT IV satellite images, which possess a special vegetation sensor, and a global standard program created to map the vegetation of the planet (Global Land Cover 2000). At the end of 2002, vegetation cover maps were elaborated for the five geographic regions of Brazil and for the Legal Amazon region. Additional information at <http://www.cobveget.cnpm.embrapa.br/index.html>

Agricultural Sustainability in the Amazon Region: this project is executed by EMBRAPA Satellite Monitoring in partnership with NGO Ecoforça, and has the objective of characterizing and monitoring the production systems practiced by small farmers in the region of Machadinho d'Oeste, in the state of Rondônia. Two goals are derived from this main objective: the annual monitoring of land use through satellite images; and the circumstantial characterization, every three years, of the production systems practiced, using approximately 250 variables. The project has the planned duration of 100 years. After 10 years of monitoring, consistent analyses will be possible on the agronomic, social, economic, and environmental sustainability of the existing production systems. The third and last goal consists of maintaining and updating a geographically coded and digitalized database, containing all information obtained by the project, which has allowed the consolidation of the evolution profile of the colonizing agriculture in the humid tropical forest. The triennial profiles are being used as the base for research and for multiple purpose planning. Additional information at <http://www.machadinho.cnpm.embrapa.br/>

Jaguar Population Monitoring Program for the Region of the Cantão State Park: this project begun in 2003 and is executed by the Foundation for Jaguar Conservation [*Fundação para a Conservação da Onça-Pintada*]. Its objective is to understand the wildlife dynamics in the Cantão State Park, which suffers the effect of periodic floods over a large portion of its area. For that purpose, the region is sampled both during the dry and the rainy periods. Since the jaguar distribution depends on the prey population, it is fundamental to understand this dynamic to evaluate and monitor the local jaguar population. Additional information at www.jaguar.com.br

Aracruz Celulose S.A. Wildlife Monitoring Program. Since 1981, the Aracruz Celulose S.A. has monitored wildlife within the company's working property, which covers a total area of 370,000 ha. Of these, 221,000 ha are planted with eucalyptus, 122,000 ha consist of ecosystems associated to the Atlantic Forest, and the remaining area contains infrastructure and roads. During this time, mammals, reptiles, amphibians, fish, crustaceans, and birds, were monitored in different environments and seasons. Based on the results obtained from this monitoring, a decision was made in the last few years to concentrate all monitoring efforts on birds, since they are excellent bio indicators and provide a rapid response to environment alterations. In addition, most bird species are diurnal, and easily detected by sight or song. The fauna monitoring is conducted by biologists from several institutions, as well as by internal technical staff, and the company maintains a contract with the NGO *Fundação Pró-Natureza*, from Brasília, for bird monitoring. To date, 455 bird species, 68 mammal species, 98 fish species, 47 amphibian species, and 59 reptile species were identified within the company's property. Additional information at www.aracruz.com.br

Environmental Risk Zones Mapping Project, created by Resolution 024/03 from the State Secretariat for the Environment [SEMA/PR – Secretaria Estadual de Meio Ambiente/Paraná], of 25 June 2003. This project has the objective of propitiating proactive action from the environmental institutions of Paraná state, with the purpose of preventing and/or reducing environmental impacts through monitoring, licensing, and environmental enforcement. A total of 418 Environmental Risk Zones, distributed through 194 municipalities of Paraná, were identified, characterized and mapped. The census of the Environmental Risk Zones contributed to the broad knowledge of the local and regional environmental situation, through the decentralized Regional Units of the SEMA system. From the data collected, the following products were generated: (1) census data sheets for each Risk Zone, based on UTM coordinates and through the Environmental Information System, using the cartographic base available at SEMA; (2) the census contributed to the knowledge of the local and regional environmental situation. The next steps will be to generate satellite images that allow a spatial view of the assessed Risk Zones, in addition to expand the mapping process and generate other complementary products. Additional information available at www.pr.gov.br/meioambiente/iap/ctr_mprisco.shtml

Forest Inventory of the Natural Vegetation of São Paulo State. The Forestry Institute conducted this inventory, which included:

- Identification, mapping and quantification of the natural vegetation cover (Atlantic Forest and *Cerrado*) of São Paulo state.
- Structuring a georeferenced digital base in Geographic Information System (GIS), for the continuous monitoring of the remaining vegetation.
- Support the Monitoring System of the Coastal Atlantic Forest (SIGMA).

Funding source: Forestry Institute, FAPESP – São Paulo State Research Support Foundation [*Fundação de Amparo à Pesquisa do Estado de São Paulo*], FEHIDRO – State Fund of Hydrological Resources [*Fundo Estadual de Recursos Hídricos*]. Start date: 1994; end date: 2004. Main results:

- Digital georeferenced cartographic base containing inventories of the natural vegetation cover of São Paulo state, as well as basic and thematic inventories conducted in the Conservation Units.
- Municipal Forestry Maps of the 645 municipalities of São Paulo state.
- Book in press: KRONKA, J.F.N. et al. 2004. Forestry Inventory of the Natural Vegetation of São

Paulo State [*Inventário Florestal da Vegetação Natural do Estado de São Paulo*] – (Diagnosis of the situation of the natural vegetation cover in the state of São Paulo; dissemination of the technical-scientific work developed by the Forestry Institute, making these data available to other researchers, and to public and private entrepreneurs responsible for planning and environmental protection).

21. On Article 7(c), does your country have ongoing, systematic monitoring programmes on any of the following key threats to biodiversity?

a) No	
b) Yes, invasive alien species (please provide details below)	
c) Yes, climate change (please provide details below)	
d) Yes, pollution/eutrophication (please provide details below)	X
e) Yes, land use change/land degradation (please provide details below)	X
f) Yes, overexploitation or unsustainable use (please provide details below)	X

Further comments on monitoring programmes on key threats to biodiversity.

Invasive alien species: Brazil does not possess a system for monitoring the entry of invasive alien species in the country. However, some actions are conducted with this objective: the National Agency of Sanitary Vigilance [ANVISA – *Agência Nacional de Vigilância Sanitária*] controls disease vectors at the Brazilian borders, ports and airports, with the objective of keeping terrestrial vehicles and parking areas at borders free of larval and adult insects, rodents, and any other vectors that can transmit diseases. The control measures are: applying insecticide on vehicles arriving from endemic areas for Yellow Fever and Dengue Fever; elimination of larval breeding media by physical, chemical or biological means; and verification of the Insect-Free Certification for Vehicles. <http://www.anvisa.com.br/>

VIGIAGRO. The Ministry of Agriculture, Livestock and Supply [MAPA – *Ministério da Agricultura, Pecuária e Abastecimento*] coordinates the International Agriculture and Livestock Vigilance System [VIGIAGRO – *Sistema de Vigilância Agropecuária Internacional*], which operates in units located at ports, airports, border offices, international postal service, and interior customs stations, and is responsible for the sanitary and zoophytosanitary enforcement of the agricultural cargoes that pass through these different entry points for people and merchandise. The VIGIAGRO holds the important mission of protecting the country against the introduction of pests and diseases caused by invasive alien species. Control activities such as barriers and sanitary inspection are being conducted, in addition to monitoring and quarantine services, which have already intercepted over 150 pests.

Climate Change: although there is no system to monitor the effects of climate change on Brazilian biodiversity, an important step was taken towards fulfilling this need. The Project for the Conservation, Sustainable Use, and Distribution of Benefits of Brazilian Biological Diversity [PROBIO – *Projeto de Conserva-*

ção, *Uso Sustentável e Repartição de Benefícios da Biodiversidade Brasileira*] conducted a public consultation for the elaboration of an inventory of biological indicators sensitive to climatic parameters, aiming at, among other objectives, monitoring the effects of climate change on Brazilian ecosystems. Additional information at <http://www.mma.gov.br/estruturas/chm/arquivos/cc3.pdf>. In addition, the Ministry of Science and Technology, with the purpose of fulfilling the Brazilian commitments to the United Nations Framework Convention on Climate Change, promotes the elaboration and updating of the Brazilian inventory of greenhouse gases not controlled by the Montreal Protocol. www.mct.gov.br/clima

The **PRÓ-CLIMA program** is currently being implemented by the São Paulo State Secretariat for the Environment. This program intends to develop the following actions:

- Conduct the inventory of the human-caused emissions of greenhouse gases which are not controlled by the Montreal Protocol, emitted through point-sources and sinkholes in the state;
- formulate and implement programs containing measures aimed at controlling human actions that cause climate change;
- promote the development and implementation of practices and processes which control, reduce or prevent human-caused emissions in some relevant sectors, among which: energy, transportation, industry, agriculture, cattle ranching, waste management, etc.;
- promote the exchange of relevant scientific, technologic, technical, socio-economic, and legal information about climate, climate change, and the economic and social consequences of some response strategies;
- promote education, training and sensitization of the population on climate issues.

Additional information at <http://www.ambiente.sp.gov.br/proclima/proclima.htm>.

Pollution/Eutrophication: The **Technological Center for Basic Sanitation** [CETESB – *Centro Tecnológico de Saneamento Básico*] monitors air quality at several cities in **São Paulo** state, as well as at many portions of the metropolitan area. The following parameters are analyzed: Sulphur Dioxide, Inhaled Particles, Nitrogen Dioxide, Carbon Monoxide, and Ozone. The daily bulletins are available at http://www.cetesb.sp.gov.br/Ar/ar_geral.asp. CETESB also monitors the water quality of the beaches of São Paulo state. The daily bulletins can be viewed at http://www.cetesb.sp.gov.br/Agua/agua_geral.asp. In addition, CETESB elaborates periodic reports on the following themes: Quality of Underground Waters of São Paulo State, Quality of the Inland Waters of São Paulo State, Quality of the Coastal Waters of São Paulo State, Estuarine System of Santos and São Vicente. The 2003 reports are available at http://www.cetesb.sp.gov.br/Agua/agua_geral.asp.

The **State Environmental Engineering Foundation** [FEEMA – *Fundação Estadual de Engenharia do Meio Ambiente*] of **Rio de Janeiro** state monitors water quality at 120 beaches in 15 municipalities, and daily bulletins are available at http://www.feema.rj.gov.br/classificacao_das_praias.htm. FEEMA also monitors air quality in Rio de Janeiro state, with daily bulletins available at http://www.feema.rj.gov.br/qualidade_do_ar.htm. FEEMA monitors the quality of the main water bodies in the state.

The **Minas Gerais State Environment Foundation** monitors air quality in Minas Gerais state, with daily bulletins available at <http://www.feam.br/principal/home.asp>.

The **Pró-Guaíba Program**, executed by the State Secretariat for the Environment of Rio Grande do Sul, monitors the Guaíba river watershed. In 2003, the first IQA was created (Water Quality Index, or *Índice de Qualidade da Água*) for the region. The calculated IQA matches the NSF (National Sanitation Foundation) values, which address problems related to organic load, nutrients, sediments and faecal contamination, which are the main problems identified in the Guaíba watershed. A total of 23 parameters were monitored at 88 sampling points distributed through the rivers: Gravataí, Sinos, Caí, Taquari, Jacuí and Guaíba Lake, as well as at their main affluent water courses. A sedimentation monitoring was also initiated at the rivers Gravataí, Caí and Sinos. This project aims to control inorganic pollution, such as that generated by agrochemicals and industries, and to control eutrophication (phenomenon that reduces oxygen quantities in the water due to the proliferation of algae). This Program also monitors industrial pollution in the Guaíba watershed: a census recorded 15,684 industries in the Guaíba Watershed, listing the 500 businesses with greater polluting potential, which were placed under strict control. From this total, 343 industries were included in the Self-Monitoring System of the State Foundation for Environmental Protection [Fepam – Fundação Estadual de Proteção Ambiental]. Information at <http://www.proguaiba.rs.gov.br/modulo1.htm#Monitoramento>.

FEPAM/RS monitors air quality (see <http://www.fepam.rs.gov.br/>).

The **Paraná Environmental Institute** [IAP – *Instituto Ambiental do Paraná*] monitors air quality in Paraná state, through eleven air sampling stations, seven of which are automatic. Four of these stations are located in Curitiba (Cidade Industrial, Santa Cândida, Boqueirão and Praça Ouvidor Pardino – Technical Cooperation Agreement IAP/LACTEC), and measure the following elements every 30 seconds: O₃, SO₂, NO, NO₂, CO, PTS and PI. Araucária contains three automatic stations that measure O₃, SO₂, NO, NO₂, CO and PTS or PI. In addition to these seven automatic stations there are four manual stations at Araucária and Curitiba, one of which produces daily averages for SO₂, smoke, and PTS. The automatic and manual stations constitute a monitoring network that allows a genuine evaluation of air quality conditions in Curitiba and the Metropolitan Region. The results from this monitoring are annually published in the Air Quality Report. Additional information available at <http://www.pr.gov.br/meioambiente/sema/index.shtml#>. The IAP also monitors water quality: the Paraná state was divided into 16 watersheds, and the water quality monitoring network is composed by 164 stations at rivers. The Hydrologic Information System [SIH – *Sistema de Informações Hidrológicas*] uses two types of information: water quality parameters and Water Quality Indices [IQA – *Índices de Qualidade de Água*] to monitor water quality in Paraná state. Additional information at <http://www.pr.gov.br/meioambiente/iap/index.shtml#>.

The **State Secretariat for the Environment in Espírito Santo** monitors air quality in the state through 5 manual stations. The state also possesses a Community Network for Dust Perception in the Greater Vitória Region [*Rede Comunitária de Percepção de Poeira na Região da Grande Vitória*], composed by 31 stations. The local population conducts the monitoring, which is based in a simple methodology. Additional information available at <http://www.seama.es.gov.br/scripts/sea0512.asp>. The State Secretariat for the Environment also monitors the water quality of all rivers within the Espírito Santo state, and posts the information at <http://www.seama.es.gov.br/scripts/sea1004.asp>.

The **State Institute for the Environment and Hydrological Resources** monitors water quality at the beaches of 13 coastal municipalities of Espírito Santo state. The information is available at

<http://www.seama.es.gov.br/scripts/sea0800.asp>.

The **Bahia State Hydrological Resources Superintendence** monitors the conditions of the water reservoirs in the state. Information at <http://www.srh.ba.gov.br/>.

The **Alagoas State Institute for the Environment** monitors water quality at the beaches of the metropolitan region of Maceió, and places the information at <http://www.ima.al.gov.br/Balneab.htm>.

The installation of the **Water Quality Monitoring Network of the Paraíba State** is currently in the planning phase. The State Extraordinary Secretariat for the Environment and Hydrological and Mineral Resources conducted, on 29 September 2004, the second meeting for the "Construction of the Water Quality Monitoring Network for the Paraíba State Watersheds", following up on the work initiated through the agreement UNESCO/IDB-SEMARH/State Government (I Workshop on Water Quality – 7 and 8 June 2004). During this first phase the Water Quality Program is focusing on superficial waters. While the water quantity stored in reservoirs within the state is being systematically measured by the LMRS [Laboratory of Meteorology, Hydrological Resources, and Remote Sensing – *Laboratório de Meteorologia, Recursos Hídricos e Sensoriamento Remoto*], the qualitative data still need a broader network, and to measure a larger number of quality parameters. The hydrological resources management includes the multiple use of water from reservoirs and rivers (for human consumption, animal use, irrigation and industrial use). The water quality data to be generated will be added to the existing data in SUDEMA and will compose a database to feed the State Hydrological Resources Information System, which will be continuously fed with the monitoring results. This information assemblage is essential for the bestowal of water use rights and the classification of water bodies, among other activities. Additional information available at <http://www.semarh.pb.gov.br/noticias/2004/noticia%2039-2004.shtml>.

The **Ceará State Environment Superintendence** [Semace – *Superintendência Estadual do Meio Ambiente do Estado do Ceará*] is currently planning a program to implement a control and monitoring system for air quality in the state. It comprises an assemblage of projects and/or activities to be developed by Semace, such as: implementation of the program to control vehicle pollution [PROCONAVE – *Programa de Controle da Poluição Veicular*]; installation of measuring stations for air quality; and the air quality enforcement, control and monitoring. <http://www.semace.ce.gov.br/programas/programa.asp?cd=36> .

The **monitoring of beach water quality in Fortaleza** has been conducted since 1978, initially at 31 sampling points distributed along 25 km of coast, between the rivers Cocó and Ceará. The program to evaluate bathing quality of the beaches is structured to comply with the standards established by Resolution nº 274/00 from CONAMA [National Environment Council – *Conselho Nacional do Meio Ambiente*], which defines the criteria for the classification of waters for recreation of primary contact. A bulletin containing beach classification as APPROPRIATE and INAPPROPRIATE is issued weekly for dissemination through the media. The selection of sampling points considered their proximity to rivers, streams and rain galleries, as well as frequency of beach users. The degree of water pollution is determined by the amount of coliforms present in the water, considering the maximum limits established by CONAMA Resolution nº 20. Additional information at <http://www.semace.ce.gov.br/programas/programa.asp?cd=15> .

Changes in land use: See comments in question 20 (PRODES, SIPAM, Queimadas Project)

Overexploitation and unsustainable use: the **ESTATPESCA Project** was first implemented in Ceará, in

1990, with the objective of estimating marine and estuarine fisheries production, and to provide basic information to the fisheries sector, for resource management at the community, municipal and state levels. Later, the project was consolidated and expanded to the other states of the Brazilian Northeast, under the coordination of the Center for Research and Management of Fisheries Resources of the Northeastern Coast – CEPENE/IBAMA [*Centro de Pesquisa e Gestão de Recursos Pesqueiros do Litoral Nordeste*]. A “Structural Census” was conducted at the beginning of the process, which obtained the following information:

- Census of fishing vessels;
- Census of the main species landed by fishing boats at each locality;
- Census of the main types of fishing conducted at the landing localities;
- Census of the municipalities and localities, stressing the aspects concerning the fisheries sector and its activities (landing points, supporting infrastructure, among others).

The information obtained by the structural census is systematically updated by the data collection network. The annual estimate of marine and estuarine fisheries production landed at each state is based on this database and on the collection of data on production and fishing equipment used by the active fleet. The data collection network of the ESTATPESCA Project is comprised by IBAMA staff, staff from the municipalities, and by collaborators resident at the fishing communities, which no doubt facilitates the data collection and confers greater reliability to the primary data collected. The current team was formed several years ago and has been systematically trained at annual meetings. Additional information at http://www.ibama.gov.br/cepene/paginas/pg.php?id_arq=45 .

Presently, the **Special Secretariat for Aquaculture and Fisheries of the President’s Office** [SEAP/PR – *Secretaria Especial de Aqüicultura e Pesca da Presidência da República*] supports the ESTAPESCA project through operating agreements with the Exclusive Economic Zone Research Support Foundation, with IBAMA as intervening institution, to promote the census of the fishing fleet of the North and Northeast coasts, the structural census of the marine artisanal fisheries of the Southeast and South regions, and the monitoring of fishing activities along the Brazilian coast. The main objectives of the SEAP/PR investment are: to refine data and information on fisheries production in the North and Northeast regions; to implement the ESTATPESCA project in the South and Southeast regions; and to ensure the presence of one data collector at each coastal municipality of the country. Approximately 2.5 million reais are being invested in this initiative. Additional information at <http://www.planalto.gov.br/seap/>

National Fishing Fleet Monitoring Program. Presently, the Special Secretariat for Aquaculture and Fisheries is controlling the activities of the leased foreign fishing vessels that capture tunas and tuna-like fishes, as well as demersal deep-sea resources, through several satellite tracking systems and through the testimony of witnesses. The use of these instruments was originally instituted following recommendations from the International Convention for the Conservation of Atlantic Tunas (ICCAT) and from the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR). In 2005, the monitoring will also be applied to the Brazilian fishing vessels. Additional information at <http://www.planalto.gov.br/seap/>

The Vila Rica State Park (PEVR) and the Conservation of Biodiversity in Paraná: In 1999 the Forest Net Project (Mikich et al. 1999) evaluated the status of the remaining forest fragments and riparian vegetation of the region surrounding the state park (radius of 30 km) and concluded that, although the

forest cover of the region requires urgent recomposition, little is known about the dynamics and the impacts of such action, and therefore several types of data need to be collected before this restoration is conducted, so that its positive and negative effects may be monitored. Therefore, the main objective of the project was to obtain the parameters for monitoring the effects of the vegetation recomposition on the regional biodiversity, in the Seasonal Semi-deciduous Riparian Forest of the region surrounding the PEVR. Unprecedented data on richness and diversity were obtained for all analyzed animal groups, in addition to data on abundance, population dynamics and wildlife movement among the study areas for several species. These data, when added to those on vegetation characterization of the study areas and fruit production (data not yet analyzed), will allow a better understanding of the responses of different animal species of the regional wildlife to the fragmentation and isolation process of the forest fragments. The highly significant results obtained with the use of artificial perches and essential oils from fruits present in the diet of bats to attract, respectively, birds and bats, represented significant advances in the techniques for the restoration of degraded forest areas such as those found among the studied forest fragments. This study was an initiative of the Mater Natura Institute. Information at www.maternatura.org.br .

22. On Article 7 (d), does your country have a mechanism to maintain and organize data derived from inventories and monitoring programmes and coordinate information collection and management at the national level?

a) No	
b) No, but some mechanisms or systems are being considered	
c) Yes, some mechanisms or systems are being established	X
d) Yes, some mechanisms or systems are in place (please provide details below)	X
e) Yes, a relatively complete system is in place (please provide details below)	

Further information on the coordination of data and information collection and management.

Information System on Collections of Biotechnological Interest [SICol – Sistema de Informação de Coleções de Interesse Biotecnológico]: project conducted within the Biotechnology and Genetic Resources Program of the Ministry of Science and Technology, with the objectives of disseminating information on the Brazilian Biological Resource Centers, and to serve as a connecting element to the several and diverse collections of biotechnological, economic and industrial application interest. The Biological Resource Centers [CRB – *Centros de Recursos Biológicos*] are key components of the scientific and technological structure necessary for biotechnology development. In addition to facilitating the access to information for users of biological inflow in the area of biotechnology, the SICol hopes to provide useful information to those responsible for developing public policies in this area. <http://sicol.cria.org.br>

Bioprospecta – Biota Network of Bioprospection and Bioassays. The objective of this network is to create a large information matrix, which correlates the different species (and their parts, such as extracts, fractions, pure substances, genes, proteins and other biomolecules) with the larger possible number of experiments of applied interest. The BIOPROSPECTA will consist of projects of independent origin, but connected in their purpose and operation. The unifying objective of the projects should be the bioprospection with the purpose of widening, in a systematic and organized manner, the universe of species studied

through different bioassays. Although not yet entirely comprising, the focus of the network will be the biodiversity of São Paulo state, including micro-organisms, and terrestrial and aquatic flora and fauna. At the end of 2004, the project was at its initial phase of selecting the projects to be funded. Additional information at www.redebio.org.br .

SinBiota – Biota Environmental Information System [*Sistema de Informação Ambiental do Biota*].

The project is part of the Biota/Fapesp Program, and was developed with the objective of integrating information generated by the researchers connected to the Biota/Fapesp, connecting this information to a quality digital cartographic base, thus providing mechanisms to disseminate information on the biodiversity from São Paulo state to the scientific community, decision makers, environmental policy makers, and educators.

The Brazilian Institute for Geography and Statistics [IBGE – Instituto Brasileiro de Geografia e Estatística]

manages the program **Inventory and Digitalization of Data on Natural Resources – Fauna and Flora**. The program comprises permanent activities concerning the coordination of fauna and flora studies and inventories developed within the Geosciences Directorate, and involves the collection, treatment, storage, analysis and dissemination of primary and secondary data on Brazilian fauna and flora. These activities include the maintenance of the following databases: Plant Species of Economic Importance, Endemic Species of the Brazilian Flora, Brazilian Ichthyological Fauna; Vertebrate Fauna of the Legal Amazon Region; Conservation Units and Indigenous Lands. Additional information at www.ibge.gov.br .

23. Does your country use indicators for national-level monitoring of biodiversity? (decision III/10)

a) No	
b) No, but identification of potential indicators is under way (please describe)	X
c) Yes, some indicators identified and in use (please describe and, if available, provide website address, where data are summarized and presented)	
d) Yes, a relatively complete set of indicators identified and in use (please describe and, if available, provide website address, where data are summarized and presented)	

Further comments on the indicators identified and in use.

System for Monitoring Biodiversity in Conservation Units [SIMBIO – Sistema de Monitoramento da Biodiversidade nas Unidades de Conservação]:

The SIMBIO program was elaborated in 1999 by IBAMA, with support from the German cooperation agency GTZ. Its objective is to produce and make available information on the status and trends of biological diversity in the Conservation Units of integral protection under federal administration, with the purpose of:

- providing information for management actions;
- evaluating the degree of biodiversity protection; and
- supporting the management of the Conservation Units through the decision making process and

the definition of specific environmental management policies.

Presently, the system possesses 6 pilot projects for 6 conservation units of integral protection. To consolidate the pilot phase while optimizing and reducing cost, and avoiding the loss of relevant monitoring information, a workshop was conducted from 27 to 29 April 2004 to evaluate and select priority environmental indicators. This workshop resulted in the identification of 98 proposed indicators, from which 28 were selected.

Box III.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) The following initiatives represent important progress: SIPAM (see comments in question 20), PRODES (see comments in question 148), SOS Atlantic Forest (*SOS Mata Atlântica*), PPBio (see comments in question 89), BIOTA/SP (see comments in questions 26 and 64), PROBIO (see comments in Box II).
- b) No direct contribution is made by the mentioned initiatives towards attaining the objectives in the CBD Strategic Plan.
- c) The development and perfecting of the systems to monitor threats to biodiversity (particularly the monitoring of forest and rural fires in the Amazon) directly contribute to attaining the objectives of global goal 5: reduce pressure from habitat loss, land use change and degradation, and unsustainable water use. Also important for this objective is the consolidation of decentralized systems for controlling water pollution and quality at beaches, which is progressing well at most Brazilian states.
- d) The efforts involving biodiversity knowledge contribute to the implementation of Component 1 of the National Biodiversity Policy; those focusing on monitoring contribute to the implementation of Component 4.
- e) The efforts involving biodiversity monitoring contribute towards attaining Goal 9 of Objective 7 of the MDGs (Integrate the principles of sustainable development into country policies and programmes; reverse loss of environmental resources).
- f) Great lack of knowledge on Brazilian biodiversity; insufficient capacity in areas of rich biodiversity, such as the Amazon and the Caatinga; lack of information systems capable of storing all available information; existence of large quantities of information which is disperse and of difficult access. The following difficulties were identified: limited public participation and involvement of players; weakened institutions, causing the lack of capacity for action; lack of technology and expertise transfer; loss of traditional knowledge; lack of adequate capacity

building in scientific research to support all objectives; lack of knowledge and documentation on the loss of biodiversity and of goods and services provided by biodiversity; incomplete use of scientific and traditional knowledge; insufficient information dissemination at the national and international levels; need to adapt existing policies and legislation; need to expand and train human resources; need for greater political support; lack of public education and awareness building at all levels; lack of financial and human resources; lack of economic incentive measures; lack of synergy at the national and international levels; lack of horizontal cooperation among social players; lack of effective partnerships; lack of engagement of the scientific community; lack of capacity in the local communities.

Decisions on Taxonomy

24. Has your country developed a plan to implement the suggested actions as annexed to decision IV/1? (decision IV/1)	
a) No	
b) No, but a plan is under development	X
c) Yes, a plan is in place (please provide details below)	
d) Yes, reports on implementation available (please provide details below)	

There are initiatives that respond to some actions suggested in the annex of Decision IV/1, among which the Program for Capacity Building in Taxonomy of CNPq/MCT, which has the objective to double the number of PhD's in taxonomy in seven years.

25. Is your country investing on a long-term basis in the development of appropriate infrastructure for your national taxonomic collections? (decision IV/1)	
a) No	
b) Yes (please provide details below)	X

Further information on investment on a long-term basis in the development of appropriate infrastructure for your national taxonomic collections.

The **National Science and Technology System** has several programs included in the Pluri-annual Plan that support the development of taxonomy in Brazil, among which: the Program Science, Nature and Society; Biotechnology; the Program to Promote Research and Scientific and Technological Development; and the Training and Capacity Building of Human Resources for Research. These latter two programs are permanent instrumental programs and have been responsible for structuring the post-graduation in taxonomy, which currently possesses 78 courses at the Masters and PhD levels. These programs also support research, scientific publications, and the maintenance of scientific biological collections – which comprise approximately 235 germoplasm banks containing over 250 thousand plant, animal and micro-organism samples; 119 herbaria with over 5 million specimens; and several zoological collections holding approxi-

mately 27 million specimens.

Even representing the effort of several decades, Brazil still needs to broaden its scientific collections, which represent only 10% of the global collection, and to build capacity to study the country's enormous biodiversity. With that objective Brazil, through the Ministry of Science and Technology and CNPq, recently established mobilizing programs such as the PPBio (see question 15) and the Program for Capacity Building in Taxonomy, which are long-term initiatives aiming, respectively, at the broadening and modernization of the Brazilian biological collections, and at promoting the distribution of the capacity building of human resources in taxonomy in the country (80% the national expertise is concentrated in the South and South-east regions of the country). The PPBio possesses an action included in the 2004-2007 Pluri-annual Plan, which aims at improving the infrastructure and modernizing the national biological collections (support to the modernization of biological collections, see question 22). INPA and MPEG, of the Ministry of Science and Technology, have their own budget resources to maintain their historical scientific collections. Sectoral funds from the Ministry of Science and Technology also support biological collections, such as the Biotechnology Fund, which published a public notice in 2005, to support microbiological collections.

The **Program for the Conservation, Sustainable Use and Recuperation of Biodiversity** of the Federal Government Pluri-annual Plan, is executed by the Secretariat for Biodiversity and Forests of the Ministry of the Environment, and has among its actions the taxonomical revision of the Neotropical flora and the conservation of reference scientific botanical collections of the Rio de Janeiro Botanical Gardens Research Institute.

CONAMA [National Environment Council – *Conselho Nacional do Meio Ambiente*] Resolution nº 339 of 25 September 2003, establishes criteria to classify the Brazilian botanical gardens into three categories: A, B, and C. The criteria refer to the following themes:

I – technical-scientific staff;

II – vigilance and gardening services;

III – production of seedlings from native species of the local flora;

IV – administrative and logistic support compatible with the activities to be developed;

V – research programs aiming at the conservation and preservation of species;

VI – special collections representative of the native flora, housed in adequate structures;

VII – environmental education programs;

VIII – basic infrastructure to receive visitors;

IX – herbarium;

X – digitalized record system for the collections;

XI – specialized libraries;

XII – germoplasm bank;

XIV – cooperation with the conservation units, predicted in the National System of Nature Conservation Units [SNUC – *Sistema Nacional de Unidades de Conservação da Natureza*], established by Law nº 9985 of 18 July 2000.

Additional information at www.jbrj.gov.br .

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26. Does your country provide training programmes in taxonomy and work to increase its capacity of taxonomic research? (decision IV/1)

a) No	
b) Yes (please provide details below)	X

Further information on training programmes in taxonomy and efforts to increase the capacity of taxonomic research.

CNPq and CAPES provide continuous support to the national post-graduation courses in biological sciences that work with taxonomy.

The **Biota/FAPESP Program** has the objective of conducting the inventory and characterizing the biodiversity of São Paulo state, defining the mechanisms for its conservation, and evaluating its economic potential and sustainable use. www.biota.org.br

Long-Term Ecological Research Program [PELD – Programa de Pesquisas Ecológicas de Longa Duração]: the PELD is a program of the National Research Council [CNPq – *Conselho Nacional de Desenvolvimento Científico e Tecnológico*] and has the mission of promoting the organization and consolidation of the existing knowledge on the composition and functioning of Brazilian ecosystems, generating information and tools to know and protect their biological diversity. This is a program to induce ecological research to be conducted in a network of 12 selected areas representative of Brazilian ecosystems. The PELD has as objectives:

- to promote the organization and consolidation of knowledge on the composition and functioning of Brazilian ecosystems;
- to establish policies for the development of ecological research in Brazil; develop research and information networks, participating in the standardization of instruments and methodologies;
- to participate in research groups and activities, generating opportunities for the development of studies and syntheses to allow the sustainable use of natural resources, the solution to environmental problems, and the improvement of life quality of the Brazilian population.
- to contribute to the generation of methodologies that provide immediate directives to plan public policies and conservation programs.
- to promote the capacity building of human resources and the institutional development.

Additional information at <http://www.icb.ufmg.br/~peld/>

Thematic Phanerogamic Flora of São Paulo State Project. The project has the main objective of publishing the phanerogamic flora of São Paulo (angiosperms and gymnosperms) through the elaboration of monographies on approximately 180 families, 1,500 genera and 8,000 species. This project is funded mainly by FAPESP, with additional support from CNPq, and currently counts with 226 collaborators in 49 institutions of 7 different countries. The project includes the effective participation of the following State institutions: Botany Institute [IBt – *Instituto de Botânica*]; State University of Campinas [UNICAMP- *Uni-*

versidade Estadual de Campinas]; State Agronomic Institute [IAC – *Instituto Agrônômico do Estado*]; Forestry Institute [IF – *Instituto Florestal*]; University of São Paulo [USP – *Universidade de São Paulo*] – campi of São Paulo, Piracicaba [ESALQ – *Escola Superior de Agricultura Luiz de Queiroz*], and Ribeirão Preto; São Paulo State University [UNESP – *Universidade Estadual Paulista*], campi of Rio Claro, Botucatu, and São José do Rio Preto; and the Department of Parks and Green Areas [DEPAVE – *Departamento de Parques e Áreas Verdes*] of the Municipality of São Paulo. The publication of the first three volumes of the Flora, in July 2001, July 2002 and December 2003, made available to the scientific community the description of 83 families, 350 genera and 1,357 species. Over 27 families currently being edited will comprise the next volumes. The project decided to publish online the List of Species Occurring in the State of São Paulo, with data from the monographies produced, published or being edited, and from the list of species revised by a large part of the authors, which will undoubtedly be an important database for the elaboration of the list of endangered species.

CNPq Program for Capacity Building of Human Resources for Research. This program aims at increasing the capacity of the National Science and Technology System to respond to the demands presented by society for knowledge and technical-scientific services, through the training and capacity building of researchers.

27. Has your country taken steps to ensure that institutions responsible for biological diversity inventories and taxonomic activities are financially and administratively stable? (decision IV/1)		
a)	No	
b)	No, but steps are being considered	X
c)	Yes, for some institutions	
d)	Yes, for all major institutions	

28. ¹ Is your country collaborating with the existing regional, subregional and global initiatives, partnerships and institutions in carrying out the programme of work, including assessing regional taxonomic needs and identifying regional-level priorities? (decision VI/8)		
a)	No	

¹ The questions marked with * in this section on Taxonomy are similar to some questions contained in the format for a report on the implementation of the programme of work on the Global Taxonomy Initiative. Those countries that have submitted such a report do not need to answer these questions unless they have updated information to provide.

b) No, but collaborative programmes are under development	X
c) Yes, some collaborative programmes are being implemented (please provide details about collaborative programmes, including results of regional needs assessments)	
d) Yes, comprehensive collaborative programmes are being implemented (please provide details about collaborative programmes, including results of regional needs assessment and priority identification)	

Further information on the collaboration your country is carrying out to implement the programme of work for the GTI, including regional needs assessment and priority identification.

See comments in Articles 17 and 18.

Latin-American Botany Network [RLB – Rede Latino-Americana de Botânica]. This Network is a consortium of Post-Graduation Education Centers located in Mexico, Costa Rica, Venezuela, Brazil, Chile, and Argentina. These Centers are the focus for the organization of bi-national research projects, regional post-graduation courses, and scientific meetings.

The activities of the RLB have been funded by the contributions of: Andrew W. Mellon Foundation; John D. and Catherine T. MacArthur Foundation; Rockefeller Foundation; AID; Jessie Smith Noyes Foundation; Compton Foundation; William and Flora Hewlett Foundation; W. Alton Jones Foundation; and other contributions from Institutions belonging to the Centers that compose the Network. The Network has the following objectives:

- Increase the number of botany researchers trained in Latin America in a regional context, holding as principles: a greater sensitivity to the biodiversity conservation needs, and the promotion of research relevant to biodiversity;
- Promote the development of new centers of excellence in botany in the region;
- Reduce the critical isolation among the Latin American scientists, which has largely prevented the development of a regional consensus to face the resource conservation and management problems;
- Promote a greater regional pride, self-sufficiency, and stronger and healthier international relations among Latin American countries.

29. Has your country made an assessment of taxonomic needs and capacities at the national level for the implementation of the Convention? (annex to decision VI/8)

a) No	
b) Yes, basic assessment made (please provide below a list of needs and capacities identified)	X
c) Yes, thorough assessment made (please provide below a list of needs and capacities identified)	

Further comments on national assessment of taxonomic needs and capacities.

Publication: **Evaluation of Knowledge on Biological Diversity in Brazil: executive summary**. National Biological Diversity Strategy Project. Brasília: MMA, 2003. [*Avaliação do Conhecimento da Biodiversidade Brasileira/Projeto Estratégia Nacional*]. Also available in Spanish.

By initiative of the Secretariat for Biodiversity and Forests of the Ministry of the Environment, eight documents were updated on the **Evaluation of Knowledge on Biological Diversity** of freshwater organisms, vertebrates, marine invertebrates, terrestrial invertebrates, genetics, terrestrial plants, micro-organisms, and Brazilian Biodiversity: synthesis of the current status of knowledge. These texts will be published in the beginning of the second semester of 2005.

The results of the study revealed that the level of knowledge on Brazilian biodiversity is inadequate. The necessary initiatives are listed below. First, actions are proposed to use and maximize national capacities; second, new actions are identified:

Use of existing knowledge and capacities:

- Detailed study of the available collections, giving priority to well represented groups with consolidated taxonomy; elaboration and electronic publication of catalogues and checklists;
- Promote the production and publication of taxonomic reviews and identification guides, specially those available to non-expert technicians, professors, etc.;
- Consolidate the material and infrastructure of collections, especially through the creation of permanent positions for curators, technicians and supporting staff.

New initiatives:

- Establish and strengthen regional centers, specially in the Northeast and Mid-West regions, and include them in the national and regional biodiversity inventory and monitoring projects, in collaboration with experienced groups;
- Conduct new inventories in habitats and regions insufficiently known, georeference these data and collect them with common collection methodologies and procedures that allow comparative analyses;
- Distribution of new bioinformatics technologies to increase the pace of systematization and dissemination of knowledge on biodiversity;
- Join international initiatives, especially those that promote partnerships with institutions that hold large collections and researchers experienced with Neotropical biota.

The publications are available at <http://www.mma.gov.br/port/sbf/index.cmf>.

30. Is your country working on regional or global capacity building to support access to, and generation of, taxonomic information in collaboration with other Parties? (annex to decision VI/8)	
a) No	X
b) Yes, relevant programmes are under development	
c) Yes, some activities are being undertaken for this purpose (please provide details below)	

d) Yes, many activities are being undertaken for this purpose (please provide details below)	
Further comments on regional or global capacity-building to support access to, and generation of, taxonomic information in collaboration with other Parties.	
International cooperation projects:	
Brazil-France Bilateral Cooperation	
<ul style="list-style-type: none"> - Project: Soil functioning and its relation to plant and edaphic fauna biodiversity [<i>Funcionamento do solo e suas relações com a biodiversidade vegetal e da fauna edáfica</i>], executed by Embrapa Cerrados. - Project: Pilot Actions to Promote the Importance of the Biodiversity of Pantanal, Mato Grosso do Sul [<i>Ações Piloto para a Valorização da Biodiversidade do Pantanal, Mato Grosso do Sul</i>], executed by CPAP/Embrapa. 	
Iberian-American Program for Science and Technology for Development [CYTED - <i>Ciencia y Tecnología para el Desarrollo</i>]: Brazil is one of the 21 countries that participate in the Program. The activities are developed within 16 sub-programs, among which, one on biological diversity. Additional information at http://www.cytmed.org	

31. Has your country developed taxonomic support for the implementation of the programmes of work under the Convention as called upon in decision VI/8? (annex to decision VI/8)	
a) No	
b) Yes, for forest biodiversity (please provide details below)	
c) Yes, for marine and coastal biodiversity (please provide details below)	
d) Yes, for dry and sub-humid lands (please provide details below)	
e) Yes, for inland waters biodiversity (please provide details below)	
f) Yes, for mountain biodiversity (please provide details below)	
g) Yes, for protected areas (please provide details below)	
h) Yes, for agricultural biodiversity (please provide details below)	X
i) Yes, for island biodiversity (please provide details below)	
Further comments on the development of taxonomic support for the implementation of the programmes of work under the Convention.	

32. Has your country developed taxonomic support for the implementation of the cross-cutting issues under the Convention as called upon in decision VI/8?	
a) No	X
b) Yes, for access and benefit-sharing (please provide details below)	
c) Yes, for Article 8(j) (please provide details below)	
d) Yes, for the ecosystem approach (please provide details below)	
e) Yes, for impact assessment, monitoring and indicators (please provide details below)	
f) Yes, for invasive alien species (please provide details below)	
g) Yes, for others (please provide details below)	
Further comments on the development of taxonomic support for the implementation of the cross-cutting issues under the Convention.	
<p>Ecosystem Approach: The Project for the Conservation and Sustainable Use of Brazilian Biological Diversity [PROBIO – <i>Projeto para a Conservação e Utilização Sustentável da Diversidade Biológica Brasileira</i>] published a public notice in August 2004 to select an institution to implement the “Inventory of the remaining vegetation fragments of the Atlantic Forest biome”. This inventory will be conducted at the 1:250,000 scale, and will generate important information for the development of public policies for the conservation and sustainable use of biological diversity in the country. Additional information at http://www.mma.gov.br/estruturas/chm/_arquivos/edit304.pdf</p>	
<p>Impacts, monitoring and indicators: See comments in Article 14.</p>	
<p>Invasive alien species: The Project for the Conservation and Sustainable Use of Brazilian Biological Diversity (PROBIO) issued a public consultation to select an institution to elaborate a report on the invasive alien species that affect continental waters. The Arthur Bernardes Foundation [FUNARBE - <i>Fundação Arthur Bernardes</i>] was the selected institution. Additional information available at http://www.mma.gov.br/?id_estrutura=14&id_conteudo=784</p>	

Article 8 - *In-situ* conservation

[excluding paragraphs (a) to (e), (h) and (j)]

<p>33. On Article 8(i), has your country endeavored to provide the conditions needed for compatibility between present uses and the conservation of biological diversity and sustainable use of its components?</p>	
a) No	
b) No, but potential measures are being identified	
c) Yes, some measures undertaken (please provide details below)	X
d) Yes, comprehensive measures undertaken (please provide details below)	
<p>Further comments on the measures taken to provide the conditions needed for compatibility between present uses and the conservation of biological diversity and sustainable use of its components.</p>	
<p>Brazilian Agenda 21. Included in the Federal Government Pluri-annual Plan. The first phase of the Brazilian Agenda 21 was the construction of the document "Brazilian Agenda 21". This process occurred from 1996 to 2002, and was coordinated by the Commission for Sustainable Development Policies and for the National Agenda 21 [CPDS – <i>Comissão de Políticas de Desenvolvimento Sustentável e da Agenda 21 Nacional</i>], with the participation of approximately 40,000 people throughout Brazil. The document Brazilian Agenda 21 [<i>Agenda 21 Brasileira</i>] was concluded in 2002. Starting in 2003, the Brazilian Agenda 21 not only initiated its implementation phase assisted by CPDS, but was also promoted by the current Government to the condition of Program within the 2004-2007 Pluri-annual Plan. As a program, it acquired greater political and institutional strength, becoming a fundamental instrument for the construction of a Sustainable Brazil, harmonized with the directives of the governmental environmental policy, sustainable development, strengthening of the National System for the Environment [SISNAMA – <i>Sistema Nacional de Meio Ambiente</i>], social participation, functioning across all areas, and adopting important references such as the Earth Declaration.</p> <p>Within the Program Agenda 21, the main activities implemented in 2003 and 2004 reflect the scope and capillarity that Agenda 21 is conquering in Brazil. These activities are being developed in a decentralized manner, aiming at the strengthening of society and local power, since the Agenda 21 can only become a reality with the participation of the population, thus advancing towards the construction of a participatory democracy in Brazil.</p> <p>Additional information at http://www.mma.gov.br/?id_estrutura=18&id_conteudo=908</p>	
<p>National Biodiversity Strategy – see comments in questions 12, 13 and 15.</p>	
<p>Program for the Conservation, Sustainable Use and Recuperation of Biodiversity. A Program within the Federal Government Pluri-annual Plan, with a budget of R\$91,435,635.00 for the period of 2004-2007, with the objective of knowing and conserving biological diversity, and promoting the sustainable use of its components. The institutions responsible for this program are: Rio de Janeiro Botanical Gardens Research Institute [JBRJ – <i>Instituto de Pesquisas Jardim Botânico do Rio de Janeiro</i>]; IBAMA; National Fund for the Environment [FNMA – <i>Fundo Nacional de Meio Ambiente</i>]; Secretariat for Biodiversity</p>	

and Forests; National Department of Constructions Against Drought.

National Fund for the Environment [FNMA – *Fundo Nacional de Meio Ambiente*]: Public Notice 03/2003 selected proposals for the Strengthening of the Participatory Management of Conservation Units of Sustainable Use. A total of R\$2.1 million were invested in this initiative, through financial support of two different calls for proposals:

Call for Proposals I – Social Mobilization and Implementation of Councils for Conservation Units of Sustainable Use; and

Call for Proposals II – Consolidation of the participatory management processes applied by Councils of Conservation Units of Sustainable Use.

The Special Secretariat for Aquaculture and Fisheries of the President's Office applied efforts to adequate the size of the fishing fleet it administers to promote the sustainable exploitation of fisheries resources, based on the production capacity of the fish stocks as defined by the scientific community. These actions resulted in the elaboration and publication of regulations for some type of fishing activities, such as those for octopus (*Octopus spp.*), and the deep-water crabs *Chaceon ramosae* and *Chaceon notialis*, by means of the following Normative Rulings:

- Normative Ruling nº 3, of 26 April 2005;
- Normative Ruling nº 4, of 04 April 2005;
- Normative Ruling nº 5, of 04 May 2005.

Additional information at <http://www.planalto.gov.br/seap/>

Artificial Reefs and Attractors Program. Brazil implemented this program through the Special Secretariat for Aquaculture and Fisheries of the President's Office, with the objective of installing 2,600 artificial reefs, which should work both as a Trawl Exclusion Device to prevent fishing and as attractors for lobsters, replicating rocky habitats to increase the populations of marine species of economic interest. The project obtained the intense involvement of local communities through the conduction of 8 workshops in Natal (RN), Cabedelo (PB), Baleia Franca Environmental Protection Area (SC), Angra dos Reis (RJ), Búzios (RJ), the Marine Park in Arraial do Cabo (RJ), Mangaratiba Bay (RJ), and Paraty Bay (RJ), to promote discussion and follow-up of the activities conducted at each locality.

Integrated Program for the Conservation and Sustainable Use of Biodiversity [Picus - *Programa Integrado de Conservação e Uso Sustentável da Biodiversidade*]: executed by the Brazilian Fund for Biodiversity [FUNBIO – *Fundo Brasileiro de Meio Ambiente*], this program selected seven project proposals with the objective of generating, in the long-term, positive impacts at pre-determined areas, through the implementation of activities dealing with the conservation and sustainable use of biodiversity. These actions must be capable of mobilizing public attention towards the possibilities and advantages of a sustainable development style as an alternative to the current development model. The selected organizations are: Floresta Viva Institute, Center for Alternative Agriculture of the North of Minas Gerais State [CAA-NM – *Centro de Agricultura Alternativa do Norte de Minas*], São Paulo Forestry Foundation, The Nature Conservancy – Brazil, BioAtlântica Institute [Ibio – *Instituto BioAtlântica*], Foundation for the Rural Economic Development of the Mid-Western Region of Paraná [Rureco – *Fundação para o Desenvolvimento Econômico*

Rural da Região Centro-Oeste do Paraná], and Ecological Society of the Northeast [SNE – Sociedade Nordestina de Ecologia]. Additional information at www.funbio.org.br

Program for the Preservation of the Atlantic Forest. See comments in question 19.

34. On Article 8(k), has your country developed or maintained the necessary legislation and/or other regulatory provisions for the protection of threatened species and populations?

a)	No	
b)	No, but legislation is being developed	
c)	Yes, legislation or other measures are in place (please provide details below)	X

Further information on the legislation and/or regulations for the protection of threatened species and populations.

Legislation concerning Wildlife:

- Federal Constitution of 1988, art. 225, 1st Paragraph, VII: to protect the fauna and flora, preventing, under the rule of law, those practices that place their ecological function at risk, cause the extinction of species, or submit animals to cruelty.
- Law of Environmental Crimes: Law n° 9605 of 12 February 1998 – Rules about the criminal and administrative punishments deriving from behaviours and activities that cause harm to the environment, and rules about other subjects; and Decree n° 3179, of 21 September 1999, which regulates the Law of Environmental Crimes.
- Decree n° 4339, of 22 August 2002, establishes the National Biodiversity Policy.
- Wildlife Law (Law n° 5197, of 03 January 1967). Even though this law does not specifically address endangered species, it rules about wildlife protection and determines, in its 1st article, that “animals of any species, at any phase of their development, and that live naturally out of captivity constituting the wild fauna, as well as their nests, shelters and natural breeding places, are property of the State, which prohibits their use, chase, destruction, hunting, or capture”.
- Forestry Code (Law n° 4771, of 15 September 1965). Defines as Permanent Protection Area the area that contains one or more endangered species, and establishes the requirement of specific authorization for the commercialization of flora.
- Fisheries Code (Decree-Law n° 221, of 28 February 1967). Regulates the use of fisheries resources.
- Law n° 7643, of 18 December 1987. Prohibits the hunting of cetaceans within the Brazilian jurisdictional waters (www.senado.gov.br/legisla.htm).
- Law n° 7679, of 23 November 1988. Prohibits fishing of species during their breeding seasons (www.senado.gov.br/legisla.htm).
- Decree n° 7623, of 17 November 1975. Promulgates the Convention on International Trade in En-

dangered Species of Wild Flora and Fauna (www.senado.gov.br/legisla.htm).

List of endangered species of the Brazilian fauna: (MMA Normative Ruling nº 003, of 22 May 2003)

The Ministry of the Environment issued the new List of Endangered Species of the Brazilian Fauna, with 395 animal species. This list was elaborated in partnership with the Biodiversitas Foundation, Brazilian Zoology Society, Conservation International, Terra Brasilis, and institutions for graduate studies. The previous edition of the list was issued in 1989, with 219 species. In contrast with previous editions, the current list contains the characteristic of promoting the preservation of habitats and the species that live in them. Its objectives are: to guide recuperation programs for endangered animal species; bring about proposals for the implementation of conservation units; abate environmental impacts; provide incentives to research programs; and serve as a reference for the enforcement of the Law of Environmental Crimes. The list prepared in 2003 did not include fish or aquatic invertebrates; these groups were only included in 2004. The new list, containing 395 terrestrial species and 239 aquatic species (79 of aquatic invertebrates and 160 fish species), was elaborated with the scientific knowledge of experts, and is a basic reference for the definition of conservation policies in our country.

List of endangered species of the Brazilian flora: Through the Ministry of the Environment, Brazil is beginning to update the list of endangered species of the Brazilian flora. The list elaborated by IBAMA in 1992 will be updated according to the IUCN categories. A permanent thematic council was created within the National Commission for Biodiversity [CONABIO – *Comissão Nacional de Biodiversidade*], to deal with endangered species. It is the responsibility of this council to establish criteria for the classification of the flora species within the IUCN categories. The new list will be elaborated in partnership with Biodiversitas Foundation, and its publication is planned for the end of 2005.

State lists of endangered species: The following states possess lists of endangered species:

- Paraná (<http://celepar7.pr.gov.br/livrovermelho>);
- Rio Grande do Sul (<http://www.sema.rs.gov.br/sema/html/especextrs.htm>);
- Rio de Janeiro, and São Paulo (<http://www.ib.usp.br/ceo/ameac/livrover.htm>);
- Minas Gerais (www.biodiversitas.org.br).

The states of Pará and Espírito Santo are concluding the ratification process of their state lists. The state of São Paulo is beginning the studies to review its state list of endangered animal species.

Official List of the Endangered Species of the Flora of São Paulo State. The Resolution SMA-48, published in the *Diário Oficial do Estado de São Paulo*, edition of 22 September 2004, disseminates the new list of endangered plant species of São Paulo state, containing 1,009 species consolidated by experts during the period of 1998-2004. The Resolution also states that, among other aspects, the knowledge of the flora of São Paulo state should contribute to environmental planning and to guide processes of concession of environmental permits, development of public policies, management plans for conservation units, and for issuing official appraisals and deforestation permits. Above all, the list should contribute to the elaboration of Conduct Adjustment Terms [TACs – *Termos de Ajustamento de Conduta*], Reports of Previous Assessment [RAPs – *Relatórios de Avaliação Prévia*], and Environmental Impact Studies [EIAs – *Estudos de Impacto Ambiental*]. The list was elaborated according to modified IUCN criteria, adapted to the

flora of São Paulo and consolidated during a workshop conducted by the Botany Institute, an agency of the Secretariat for the Environment, on 13 and 14 September 2004. Urgent measures should be applied to preserve the endangered species, according to the directives established by the Convention on Biological Diversity and the Agenda 21.

Brazil possesses numerous **programs and projects aiming at the protection of threatened species**, which have presented satisfactory results. Among these, the following can be highlighted:

Program for the Protection of Endangered Species of the Brazilian Atlantic Forest: executed by Biodiversitas Foundation and funded by the Partnership Fund for Critical Ecosystems, the program has the objective of promoting the protection and management of endangered species of the fauna and flora of the Atlantic Forest. The current forest cover of the Atlantic Forest corresponds to less than 8% of its original extension and, despite all conservation measures and legal framework that prioritizes its protection, the forest is still subject of intense devastation. As a consequence, hundreds of species are severely endangered, which places Brazil among the countries with the greatest number of species threatened with extinction in the planet. The program works through the publication of specific Public Notices (induced demand). The first Public Notice, closed in March 2004, selected 16 projects distributed through 12 Brazilian states that contain Atlantic Forest. Information at <http://www.biodiversitas.org.br/cepf/1edital.htm>

Groupers Project: The IBAMA Administrative Ruling nº 121, of 20 September 2002, ensured the protection of the itajara grouper for 5 years and reinforced the need for scientific research on its biology. The itajara grouper is a fish that attains the greatest proportions within the species of the Serranidae family (for example: sea bass, black grouper, mottled grouper, gag, snowy grouper, itajara grouper), reaching up to 300 kg. This factor, combined with the slow growing rate, proterogynous hermaphroditism, formation of breeding assemblages, and late age of first maturation, make this species acutely sensitive to over fishing. To the disquieting factors of its biology are added the high market value attained by the species of the Serranidae family, which results in the elevated search for the species by fishing parties. The project initially seeks to identify the main grouping areas of the population, focusing on the Babitonga Bay and proximities. After developing an action plan, a timeline will be proposed for the monitoring of these groupings. Additional information at <http://www.vidamar.org.br/meros/projeto.php> .

Muriqui Preservation Program: This program has the objective of removing the Muriquis (*Brachyteles arachnoides* and *Brachyteles hypoxanthus*) from the national and international endangered species lists. Initiated through an operating agreement between IBAMA and the NGO TEREVIVA, in its first phase the program will locate and quantify the populations of this primate in the region of Serra dos Órgãos (Rio de Janeiro state). In the second phase, a genetic study will be conducted to identify the species still occurring in this area, also identifying its present habits through the tracking and observation of the located groups. Finally, based on the results of the first two phases, the need for translocation or repopulation will be evaluated, to ensure the re-integration of the Muriquis into their original habitat. Parallel to the biological study, the program develops an Environmental Education Project that also aims at increasing the employment and income opportunities for the communities surrounding the Conservation Units involved in the program. Identical procedures will take place at all regions within the state where the presence of the species is possible, or where sightings of the species have been reported. Additional information at www.programamuriqui.org.br .

Association for the Conservation of Neotropical Carnivores [Pró-Carnívoros – Associação para Conservação de Carnívoros Neo-Tropicais]: This institution was established in 1996, and currently pos-

sesses 21 ongoing projects throughout the national territory. Additional information at www.procarnivoros.org.br .

Piabanha Project: This project has the mission of working with professional fishermen and riverside communities to restore environmental integrity and recover the population of native fishes currently in process of extinction in the Paraíba do Sul watershed. The tiete tetra (*Brycon insignis*) and the *Steindachneridion parahybae* figure on the national endangered species list. Additional information at www.projetopiabanha.org.br .

Rã-Bugio Institute for Biodiversity Conservation: NGO based in Guaramirim, SC, established on 05 April 2003. The mission of the Institute is to protect remaining fragments of Atlantic Forest. Activities are focused on amphibians of the Atlantic Forest. Additional information at www.ra-bugio.org.br .

Turtle Friend Project [PAT – Projeto Amiga Tartaruga]: This project is an NGO active since 1997 on the Discovery Coast, in the municipalities of Belmonte, Santa Cruz Cabralia, Porto Seguro and Prado. During the last several years, the Project has protected an average of 210 turtle nests per year. Dozens of marine turtles, one whale, penguins and other sea birds, have been rescued by the Project's team, in partnership with IBAMA and the state environmental agency (CRA) of Porto Seguro and Santa Cruz Cabralia. Dozens of living and dead turtles were identified and photographed. The Project also mapped the reproduction and feeding areas of the marine turtles along the 200km of the Discovery Coast. Additional information at www.cidadesimples.com.br/pat .

Spinning Dolphin Project: The mission of this project is to apply scientific research to preserve the natural behaviour of spinning dolphins, preserve the island of Fernando de Noronha, promote an Environmental Education program, and to provide useful information for the sustainable development of Fernando de Noronha. Additional information at www.golfinhorotador.org.br .

Humpback Whale Project: the objectives of the project are:

- Protect the species;
- Evaluate the size of the population of humpbacks that use the region of the Abrolhos reefs;
- Individually identify each animal through natural markings and through the pigmentation pattern of the tail;
- Study their natural behaviour and their interaction with tourist vessels in the region;
- Monitor and supervise tourism to ensure freedom of action for the whales (reproduction and rearing) in the region;
- Conduct vocalization studies and DNA analyses;
- Develop Environmental Education and Information activities in the region of the Abrolhos reefs;
- Record and participate in the rescue operations for beached and netted cetaceans along the coast between the state of Espírito Santo and the extreme south of Bahia state, and assist in such rescue activities, whenever necessary, along the entire Brazilian coast.

Additional information at www.baleiajubarte.com.br .

Hyacinth Macaw in Pantanal Project: This is an integrated project of biological research and environmental education for the protection of the hyacinth macaw, an endangered species, in the Pantanal. The project was initiated in 1999, and is conducted in the Pantanal of Mato Grosso and Mato Grosso do Sul states. Its objectives are: to promote the *in situ* conservation of the hyacinth macaw; disseminate the importance of the conservation of the Pantanal biodiversity of Mato Grosso do Sul; and to mobilize the popu-

lation to support the environmental conservation of the region. The project includes the tracking and observation of macaws in the field, and the monitoring of natural and artificial nests in a 400,000-hectare area, in addition to collaborating with local land owners to protect the species. The executing partners of the project are: University for the Development of the State and Region of the Pantanal [UNIDERP - *Universidade para o Desenvolvimento do Estado e Região do Pantanal*], Manoel de Barros Foundation, Ecológica Foundation, Caiman Ecological Refuge (Miranda, MS), WWF-Brazil, and Toyota. The funding sources are: WWF-Brazil, UNIDERP, and Manoel de Barros Foundation.

Manatee Project: This project was created in 1980 by the Federal Government, in an attempt to assess the status of the marine manatee in Brazil. In 1990, the project received the status of National Center for the Conservation and Management of Sirenia, a decentralized unit of IBAMA (Brazilian Institute for the Environment and Renewable Resources). Since then, the project has received technical and administrative support from the Marine Mammals Foundation, a non-profit NGO that raises funds to invest in the Manatee Project. To fulfil its mission the project rescues, rehabilitates, and re-introduces manatees in their natural habitat. Captive breeding is also an important element of this strategy. The project recorded successful examples of animals that were rescued, rehabilitated and re-introduced, and are currently monitored daily through telemetry by the technical staff of the project. Additional information at www.projetopeixe-boi.com.br.

Albatross Institute: created in 1991, the institute is currently beginning, in partnership with FAO, the elaboration of the "National Action Plan for Reducing Accidental Capture of Sea Birds by Trawl-Lines". The new Brazilian list of endangered species, issued this year by the Ministry of the Environment, considers 6 albatross species and 5 petrel species as endangered in Brazil. These include species that were already globally considered as endangered by IUCN and BirdLife International, such as the wandering albatross (*Diomedea exulans*), and the spectacled petrel (*Procellaria conspicillata*), and two new species included in the global list of endangered species: the Atlantic yellow-nosed albatross (*Thalassarche chlororhynchos*), and the black-browed albatross (*Thalassarche melanophrys*). www.projetoalbatroz.com.br.

Golden Lion Tamarin Association: Through a series of tools (re-introduction, translocation, creation and strengthening of conservation units, creation of ecological corridors, population monitoring, among others), the institution seeks to enlarge and maintain the populations of golden lion tamarins, with the goal of reaching a minimum viable population of 2,000 free-living golden lion tamarins in 25,000 hectares of protected forests, a goal that may be reached in 2005. Additional information at www.micoleao.org.br.

Study on the status of the animal species and their conservation in the state of Paraná: The Environmental Institute of Paraná contracted the Mater Natura – Environmental Studies Institute, to execute this study. An encompassing diagnosis was produced on the status of the endangered species of Paraná state, containing their status, threats, known biological characteristics, ecosystems of occurrence, and their status in Conservation Units. The main objective of the study was to revise the first "List of Endangered Animals of Paraná State", ratified by Law nº 11067, of 17 February 1995. The project applied the following methodological elements:

1. Increase of the number of assessed taxonomic groups: in addition to the taxa included in the 1995 version (mammals, birds, reptiles and butterflies), the 2004 edition also assessed amphibians, fish and bees.
2. Integral adoption of the IUCN criteria (2001, version 3.1) adapted to the regional level (Gardenfors et al., 2001).
3. Wide consultation with the scientific community: 114 researchers (independent or connected to research institutions) were invited to collaborate with the project.

4. Revised version of the Red List: elaboration of a diagnosis on the endangered species of Paraná state, containing their status, known biological characteristics, ecosystems of occurrence, status in Conservation Units (state, federal and municipal), main threats, and proposed strategies for their conservation. This information was prepared for later publication (printed and online). Additional information at <http://www.maternatura.org.br/livro>.

Chelonia Project: conducted by the Tocantins Nature Institute [NATURATINS – *Instituto Natureza do Tocantins*], the project was implemented between 2000 and 2004, with the objective of monitoring the nesting activities of two chelonian species, with emphasis on the Amazonian turtle *Podocnemis expansa*, in the region of Brejinho de Nazaré and Ipueiras. The work was conducted to evaluate the use of two remaining breeding locations at Capivara Island and Conceição Island, as well as at the estuary of the Manoel Alves river, Croá Island and Grande Island (in rivers from the Tocantins watershed). The main results produced were the repopulation of the rivers from the Tocantins and Araguaia watersheds, and the release of approximately 4,900 baby turtles in December 2004.

Feeding ecology of golden-headed lion tamarins in their natural habitat and the impact of forest fragmentation. The golden-headed lion tamarins (GHLT) are endangered mostly due to habitat loss. Their survival depends on the reconstruction of a healthy population and on the protection and linkage of forest fragments where the species still occurs. This project is conducted by the Institute for Socio-environmental Studies of the South of Bahia [IESB – *Instituto de Estudos Socioambientais do Sul da Bahia*], and is funded by 20,000 euros from the Belgian National Lottery, Flemish Government Ministry of Science (Belgium), and from the Conservation and Research Center of the Antwerp Zoological Garden. The project has the objective of analyzing the behaviour and adaptation of this species in degraded and fragmented areas. The data will be useful for: 1) the identification of areas and fragments to be prioritized for conservation, and 2) the elaboration and implementation of conservation measures for this species. Up to now, four groups of GHLTs were habituated to the presence of observers. Data were collected on the home range, different vegetation types and micro-habitats, behaviour and feeding ecology, and predator encounters. The home range of all 4 groups is mainly composed of secondary growth forest suffering selective cut, and secondary growth forest under regeneration. Information at www.iesb.org.br.

TAMAR Project [National Program for the Conservation and Research of Marine Turtles - Programa Nacional de Conservação e Pesquisa de Tartarugas Marinhas]: The TAMAR project is executed by IBAMA (Conservation and Management Center) in partnership with the Pro-Tamar Foundation, and monitors the populations of marine turtles that occur in Brazil, all of which are endangered: loggerhead (*Caretta caretta*), hawksbill (*Eretmochelys imbricate*), green turtle (*Chelonia mydas*), olive ridley (*Lepidochelys olivacea*), and leatherback (*Dermochelys coriacea*). About 90% of the people involved in the project belong to the communities where the project bases are installed. Presently, the project comprises four lines of action:

- Reproduction of marine turtles;
- Interaction with fishing activities (coastal and oceanic fishing);
- Studies on population dynamics (study of migratory routes: banding program; telemetry; capture and re-capture; genetic research); and
- Community outreach (environmental education, and development of economic alternatives for local communities).

Main results:

Identification of the major remaining areas used by marine turtles for reproduction, and main areas used

for feeding and resting. Identification of the species and species range, and implementation of effective monitoring actions, as well as systematized collection of information, which is systematically stored in a database.

This information database assists the TAMAR-IBAMA Project to plan and define adequate management strategies for the recovery and conservation of turtle species. Additional information at www.tamar.com.br and www.projetoamar.org.br.

National Research Center for the Conservation of Natural Predators [CENAP/IBAMA – *Centro Nacional de Pesquisa para a Conservação de Predadores Naturais*]: This Center develops and implements strategies and actions for the conservation and management of Brazilian predators (mammals). It manages the Georeferenced Database on Incidents with Carnivores and the Carnivores Genomic Bank; conducts educative and informative campaigns; coordinates the National Network for Responding to Incidents with Predators [RENAP – *Rede Nacional de Atendimento a Ocorrências com Predadores*]; among other activities. During the last year, CENAP recorded 153 institutions that keep carnivores; produced a catalogue containing 269 records of carnivores of wild origin; responded to 128 calls to resolve conflicts involving predation by wild carnivores; maintained 203 samples in the Genomic Bank; fitted 96 animals with radio-collars, and monitored them.

CEMAVE – National Research Center for the Conservation of Wild Birds [*Centro Nacional de Pesquisa para Conservação de Aves Silvestres*]: This center is part of IBAMA and conducts the following projects on endangered species:

- Monitoring of the areas of occurrence for the scarlet ibis (*Eudocimus ruber*) and the American flamingo (*Phoenicopterus ruber*) on the coast of Amapá state;
- Collaboration with AVIDEPA [Vila Velha Association for Environmental Protection – *Associação Vila-velhense de Proteção Ambiental*] in the monitoring and conservation of the largest known breeding colony for the Cayenne tern (*Sterna eurygnatha*) of the South Atlantic, as well as of the habitats where they occur;
- Studies on the swan species (*Coscoroba coscoroba* and *Cygnus melancoryphus*) in Rio Grande do Sul state;
- Lear's Macaw (*Anodorhynchus leari*) Conservation Project.

Additional information at www.ibama.gov.br/cemave.

Center for the Conservation and Management of Reptiles and Amphibians [RAN/IBAMA – *Centro de Conservação e Manejo de Répteis e Anfíbios*]: This is a wildlife research and conservation center within IBAMA that has the mission of coordinating, promoting and conducting, at the national level, the conservation and management actions concerning Brazilian reptiles and amphibians. Priority is given to the endangered species, and to those of commercial value. RAN seeks to strengthen the management and protection of reptile and amphibian species, through the promotion of a co-management system that includes research institutions, private sector and social organizations. The Center develops two species protection projects:

- **Amazonian Chelonia Project (RAN/IBAMA)**: implemented in the areas of natural occurrence of turtles in the states of Acre, Amapá, Amazonas, Goiás, Mato Grosso, Pará, Rondônia, Roraima, and Tocantins, this project coordinates 16 field bases and protects 115 repopulation areas distributed through the rivers: Amazonas, Tapajós, Trombetas, Purus, Xingu, Juruá, Branco, Araguaia, Javés, Rio das Mortes, among others. During its 23 years of activity, the Chelonia Project has already re-

turned to the Amazonian rivers approximately 35 million baby turtles of several chelonian species, particularly of the true Amazon turtle (*Podocnemis expansa*), yellow-spotted Amazon river turtle (*Podocnemis unifilis*), and six-tubercled river turtle (*Podocnemis sextuberculata*), repopulating rivers and recovering the natural populations of these species. Since then, RAN has become one of the most important ecological initiatives of social focus in Brazil, since it has ensured not only the survival of the several turtle species, but also the preservation of the regional culture, while offering an economic alternative for the region.

- **Pantanal Cayman Project (RAN/IBAMA):** the project is being developed in the states of Mato Grosso and Mato Grosso do Sul, with the objective of revitalizing the sustainable use of this species, ensuring that the economic exploitation will function as a conservation and socio-economic development mechanism for the Pantanal. Among the main activities developed by RAN, the following should be mentioned:
 - i) revision of the regulatory system
 - ii) incorporation of new management and captive breeding technologies;
 - iii) establishment of processing facilities; and
 - iv) making the commercialization process operational, monitoring and control of the production line.

Additional information at www.ibama.gov.br/ran .

Center for the Protection of Brazilian Primates [CPB/IBAMA – Centro de Proteção de Primatas Brasileiros]: Created in October 2001 and based in João Pessoa-PB, this specialized center has the objective of implementing actions, programs, projects and activities related to environmental research, and of generating, adapting and disseminating scientific knowledge applied to protection, conservation, management and use of the Brazilian primates. The present Committees are currently active: International Committee for the Recovery and Management of Lion Tamarins, Committee for the Conservation and Management of *Cebus xanthosternos* and *Cebus robustus*, Committee for the Conservation and Management of Muriquis, and Committee for the Conservation and Management of *Saguinus bicolor*.

Center of Aquatic Mammals [CMA – Centro de Mamíferos Aquáticos]. Since the creation of this center in 1998, this specialized institution within IBAMA became involved in the development of a broader policy for research and conservation, expanding from the previous focus on the study of Brazilian manatees. The CMA coordinates, conducts and promotes (directly or in partnership with technical-scientific institutions and NGOs) marine mammal research studies, projects, programs, conservation, and management.

In partnership with the Manatee Project, the CMA has already rescued over 40 beached manatee calves; re-introduced thirteen manatees; managed approximately 60 animals in captivity, obtained 5 births in the project breeding facilities and one birth in the wild (from a re-introduced female); assisted in the creation of 3 Federal Conservation Units; and received approximately 90,000 people in its Visitor Centers. Additional information at www.ibama.gov.br/cma .

Advisory Committees (established or in process of implementation) CGFAU/DIFAP/IBAMA:

Lear's Macaw (*Anodorhynchus leari*)

Meetings of the Committee for the Conservation and Management of the Lear's Macaw were conducted in 2003 and 2004. In 2005, an Administrative Ruling transformed this committee into the International

Committee for the Conservation and Management of the Lear's Macaw. This committee conducts annual meetings to discuss developed activities and to recommend future actions. The conservation program for this species, coordinated by IBAMA, involves activities both in the field and in captivity. The Action Plan for the species is currently under development, and should be published in 2005.

CEMAVE is responsible for the coordination of the field project, which has the objective of ensuring the *in situ* conservation of the species.

The captive program is coordinated by the Coordination for Wildlife Protection, and has the main objective of establishing a genetically and demographically viable captive population, which may allow the establishment of captive breeding and management protocols aiming at future re-introductions, if necessary. The program currently manages 39 birds, which are held in captive breeding facilities in Brazil and abroad.

Spix's Macaw (*Cyanopsitta spixii*)

A work group for the recovery of the Spix's macaw was informally created in 2002. This group is currently in the process of receiving official recognition through an Administrative Ruling, which should be published in 2005. Two meetings were held, one in 2002 and one in 2004. In 2002 and 2003, field expeditions were conducted to verify the possible occurrence of remaining wild individuals in the state of Piauí. Two documents were elaborated: and Action Plan, which is being revised and will be published in 2005, and a book containing all information on the species and the work already developed. This book is also being revised, and will be published in 2005. The captive breeding program develops the same activities as those listed for the Lear's macaw.

Hyacinth Macaw (*Anodorhynchus hyacinthinus*)

An Administrative Ruling published in 2003 established the Committee for the Conservation and Management of the Hyacinth Macaw, and the Committee met in that same year. A specific meeting was conducted to elaborate the Action Plan for the species, which should be published soon. The General Wildlife Coordination (CGFAU) conducted field expeditions in 2002 and 2003 to assess the status of the populations of this species in the region of Chapada das Mangabeiras.

Brazilian Merganser (*Mergus octosetaceus*)

A work group was informally created in 2001 to elaborate an Action Plan for the conservation of this species, which is one of the most endangered birds of the Americas, with less than 250 living individuals in the wild. Presently, a few of these birds are found in Argentina and Paraguay, while the presence of this species was already registered in four Conservation Units in Brazil: Serra da Canastra National Park, Emas National Park, Chapada dos Veadeiros National Park, and Jalapão State Park. The Action Plan for the Conservation and Management of the Brazilian Merganser is currently undergoing final revision.

Alagoas Curassow (*Mitu mitu*)

The Alagoas curassow is one of the species currently considered extinct in the wild. Since the creation of the Committee for the recovery and management of this species in 2003, IBAMA has been working with several partners with the main objectives of managing the existing captive birds to obtain a future viable population, and restoring the Northeastern Atlantic Forest, specially in the state of Alagoas, aiming at the creation of secure sites for the re-introduction of this species. In addition, artificial insemination work is

being conducted by collaborators in Belgium, and parallel environmental education activities are being conducted in the area of previous occurrence of this species, where seedlings are also being planted. A committee meeting to be held in June 2005 should produce an action plan for this species.

Red-Billed Curassow (*Crax blumenbachi*)

Endemic to the Atlantic Forest and included in the national list of endangered animal species, the red-billed curassow was the first species to be granted an Action Plan in the "Endangered Species" series. The steps followed to complete the action plan were: elaboration of a base document, distributed to the participants of the work group; meeting to discuss the base document, conducted in February 2004, with the participation of 20 experts from different areas and institutions; completion of the plan; publication of the document in September 2004, by the partnership IBAMA – Ministry of the Environment. According to the format for IBAMA action plans proposed by the Coordination for Wildlife Protection, this document considers different actions for several thematic areas, and indicates deadlines and priorities for action implementation. Some of these actions are: the creation of new protected areas; the implementation of existing protected areas; prevention of hunting activities in the area of occurrence of the species; and propagation of the re-introduction activities for this species, which are already being conducted in the state of Minas Gerais.

Golden Parakeet (*Guarouba guarouba*)

Even though the committee in charge of this species was created in 1999, the first meeting was only conducted in 2004. Some of the strategies discussed in that meeting were: gathering information on the number of captive birds; field assessments within the species' range, aiming at the preparation of proposals for the establishment of conservation units in those areas; and the elaboration of a project with standard methodology for studies of species occurrence and autoecology. The development of an *ex situ* conservation program is already being coordinated by the RIOZOO Foundation since 1998. The RIOZOO Foundation also elaborated a Management Plan for the Captive Population, which is being revised. The next meeting of the committee, to be held in 2006, should produce an action plan for the species.

Albatrosses and Petrels

From 1990 to 2000, several action plans were elaborated to reduce accidental capture of these birds by trawl-lines, and currently 12 countries already possess completed action plans. Another important step for the conservation of these birds was the elaboration of the Agreement on the Conservation of Albatrosses and Petrels (ACAP), an international agreement aiming at reducing the mortality of sea birds. Brazil signed the ACAP in June 2001, and the ratification process is currently under way at the Federal Senate. Only the Herald petrel (*Pterodroma arminjoniana*) and the Audubon's shearwater (*Puffinus lherminieri*) breed in Brazil. However, our Exclusive Economic Zone is the feeding ground for at least 37 species of procellariiforms. Of these, approximately 20 species interact with fishing activities with trawl-lines. Conscious of the problem in Brazil, the Federal Government joined with NGOs and research and education institutions to elaborate the National Action Plan for the Conservation of Albatrosses and Petrels [PLANACAP – *Plano de Ação Nacional para Conservação de Albatrozes e Petréis*], which is current in its pre-publishing phase. IBAMA created the Work Group for the Conservation of Albatrosses and Petrels through Administrative Ruling nº 55/04-N, of 01 June 2004. This work group was responsible for the elaboration of the PLANACAP, and also has the function of advising the Brazilian government on the development of measures to reduce

accidental captures of procellariforms within our territory.

Raptors (Falconiforms and Strigiforms)

A meeting on raptors was conducted in March 2005, with the main objective of evaluating the existing level of knowledge on the biology, distribution, and population status of Brazilian raptors. Among the results of this meeting are: a species list to be submitted to the appraisal of the Ministry of the Environment during the revision of the list of endangered species; the production of a list of possible indicator species for environmental impacts (especially for the use of chemicals in agriculture); the assessment of species present in captivity and the need to implement captive breeding programs for some species in steep decline in the wild; and the conduction of pilot programs for the re-introduction of harpy eagles. A second meeting should be conducted within the next year, to evaluate the base document that will guide the action plan for raptor species.

Small Mammals

The Committee for the Preservation of Small Non-flying Mammals is not yet ratified, but has already conducted two meetings, and has considerably advanced the preparation of the draft National Action Plan for the Conservation of Small Non-flying Mammals. During the preparation process of this action plan, the committee ascertained that the small mammals are endangered due to habitat fragmentation and destruction, rather than hunting pressure. Most species are endemic to the Atlantic Forest and the Cerrado, the two Brazilian biomes that suffer the strongest human pressure, both through urban expansion and agriculture expansion. Habitat preservation is a high priority for the conservation of small non-flying mammals.

Other Committees and Work Groups being Established

The Brazilian Institute for the Environment and Renewable Natural Resources [IBAMA – *Instituto Brasileiro de Meio Ambiente e dos Recursos Naturais Renováveis*], through the General Wildlife Coordination [CGFAU – *Coordenação Geral de Fauna*] will determine the meetings of 14 new Committees and Work Groups, which will produce proposals for the conservation and management of 226 other endangered species.

35. On Article 8(l), does your country regulate or manage processes and categories of activities identified under Article 7 as having significant adverse effects on biological diversity?

a) No	
b) No, but relevant processes and categories of activities being identified	
c) Yes, to a limited extent (please provide details below)	X
d) Yes, to a significant extent (please provide details below)	

Further comments on the regulation or management of the processes and categories of activities identified by Article 7 as having significant adverse effects on biodiversity.

Federal Constitution of 1988, art. 225, 1st paragraph, V: "(...) control the production, commercialization, and employment of techniques, methods, and substances that comprise risk to life, life quality, and the environment."

Law n° 7643, of 18 December 1987, forbids the hunt of cetaceans in the Brazilian jurisdictional waters (www.senado.gov.br/legisla.htm).

Law n° 7679, of 23 November 1988, forbids fishing during the fish species breeding season (www.senado.gov.br/legisla.htm).

Law n° 7802, of 11 July 1989, rules about the research, experimentation, production, packing and labeling, transportation, storage, commercialization, commercial advertising, use, import and export, final destination of package residues, registration, classification, control, inspection, and supervision, of agrochemicals, their components and similar substances.

Decree n° 98816, of 11 January 1990, regulates Law n° 7802, of 1989 (see above).

Decree n° 750, of 10 February 1993, rules about the cut, exploitation, and removal of primary growth vegetation or vegetation in advanced and medium regeneration stages, and rules about other subjects.

Decree n° 875, of 19 July 1993, promulgates the text of the Convention on the Control of Transboundary Movements of Dangerous Residues and their Final Destination.

Decree n° 2661, of 08 July 1998, regulates the single paragraph of article 27 in Law n° 4771, of 15 September 1965 (Forestry Code), through the establishment of precaution rules on the use of fire in agricultural, livestock breeding, and forestry practices, and rules about other subjects.

Resolution n° 001, of 23 January 1986, from the National Environment Council: rules about the concession of environmental licences to activities which modify the environment (www.mma.gov.br/port/conama/res/res86/res0186.html).

See comments in question 21 (Article 7).

Box IV.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;

f) constraints encountered in implementation

- a) The initiatives to recover endangered animal species have attained satisfactory results, sometimes achieving to reverse the threatened status of the species. Such initiatives are becoming stronger and obtaining their autonomy. The TAMAR project is an example of this process. TAMAR initiated within IBAMA, and currently possesses an NGO which manages the project and raises funds from several sources. This successful experience resulted in the proliferation of initiatives to protect other threatened species. The following are important initiatives: the IBAMA Centers for wildlife conservation; cases of recovery of endangered species (see comments in question 34); updating of the endangered species list (see comments in question 34).
- b) No direct contribution is made to any objective of the CBD Strategic Plan, even though important indirect contributions are made.
- c) The protection of endangered species significantly contributes to Objective 2 of the CBD Strategic Plan (To promote the conservation of species diversity), and more specifically to Goal 2.2 (Improve the status of threatened species).
- d) Component 2 of the National Biodiversity Strategy is related to the conservation of biodiversity. The actions for the protection of endangered species contribute to the third directive of the component, which is related to species conservation. The first directive deals with the conservation of biodiversity outside of conservation units, and is the directive that was granted the smallest number of initiatives conducted in Brazil.
- e) Efforts employed to protect species and to conserve biodiversity contribute towards attaining Goal 9 of Objective 7 of the MDGs (Integrate the principles of sustainable development into national policies and programs, and revert the loss of environmental resources).
- f) Lack of supervision and enforcement; lack of capacity for biodiversity protection in regions with high levels of poverty and high levels of biodiversity; pressure from urban expansion and economic activities. The following constraints were identified: limited public participation and involvement of social players; need to adapt existing policies and legislation; lack of preventive and proactive measures, causing reactive policies; weakened institutions, which result in the lack of capacity for action; lack of human resources; lack of technology and expertise transfer; loss of traditional knowledge; lack of capacity building on adequate scientific research to support all objectives; limited use of scientific and traditional knowledge; insufficient information dissemination at the national and international levels; lack of public education and sensitization at all levels; lack of financial and human resources; lack of economic incentive measures; lack of synergy at the national and international levels; lack of horizontal cooperation among social actors; lack of effective partnerships; poverty; population pressures; unsustainable production and consumption patterns; lack of capacity at local communities; global climate change; natural disasters.

Programme of Work on Protected Areas (Article 8 (a) to (e))

36. Has your country established suitable time bound and measurable national-level protected areas targets and indicators? (decision VII/28)

a) No (please specify reasons)	
b) No, but relevant work is under way	X
c) Yes, some targets and indicators established (please provide details below)	
d) Yes, comprehensive targets and indicators established (please provide details below)	

Further comments on targets and indicators for protected areas.

National System of Conservation Units [SNUC – Sistema Nacional de Unidades de Conservação]. Today, Brazil possesses a system of conservation units that integrates, under one legal instrument (Law SNUC n° 9985/2000), all Conservation Units [UCs – *Unidades de Conservação*] of the three governmental levels: Federal, State and Municipal.

The conservation units in SNUC are divided into two groups: Units of Integral Protection, with the objective of preserving nature and allowing exclusively the indirect use of natural resources contained in the unit; and Units of Sustainable Use, with the objective of harmonizing nature conservation with the sustainable use of natural resources in the unit.

Within the context of the federal effort to conserve nature, 668 conservation units are under the responsibility of the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA). Considering only the federal units and excluding RPPNs [Private Reserves of the Natural Heritage – *Reservas Particulares do Patrimônio Natural*], approximately 7% of the Brazilian territory are protected by conservation units. Of this area, 43.02% are under integral protection, and 52.97% are destined for sustainable use, respectively totalizing 24.4 and 33.8 million hectares of protected area.

These percentages are distributed in the following categories:

- Integral Protection:
- a) National Park (54)
 - b) Biological Reserve (26)
 - c) Ecological Station (30)
 - d) Natural Monument
 - e) Wildlife Refuge (01)

- Sustainable Use:
- a) Environmental Protection Area (29)
 - b) Area of Relevant Ecological Interest (17)
 - c) Extractive Reserve (37)
 - d) National Forest (70)
 - e) Wildlife Reserve
 - f) Sustainable Development Reserve
 - g) Private Reserve of the Natural Heritage (404)

Additional information at <http://www.ibama.gov.br>

National Forum of Protected Areas. This Forum was established by Administrative Ruling n° 134, of 7 June 2004, from the Ministry of the Environment. It is a collegiate instrument to ensure social participation and support to the elaboration and implementation of the National Policy for Protected Areas, in agreement

with the Protected Areas Programme of Work of the CBD.

National Census of Conservation Units. Law nº 9985/2000 establishes the National System of Conservation Units [SNUC – *Sistema Nacional de Unidades de Conservação*] and determines, in Chapter VII, article 50, that the Ministry of the Environment is responsible for organizing and maintaining a National Census of Conservation Units, developed in collaboration with IBAMA and other state and municipal appropriate agencies.

The National Census of Conservation Units was thus created, aiming at recording and managing information on the federal, state, and municipal conservation units. The Census intends to make this information available online, as well as to create decentralized access mechanisms, facilitate technical work at the several government levels, and to create a webservice. <http://www.ibama.gov.br>

Priority Areas for the Conservation and Sustainable Use of Brazilian Biodiversity: Decree nº 5092, of 21 May 2004, determined that the Ministry of the Environment should define the rules to identify priority areas for conservation, sustainable use, and distribution of benefits from biodiversity. Through Administrative Ruling nº 126, of 27 May 2004, the Ministry of the Environment established that the priority areas are those presented in the map “Priority Areas for the Conservation, Sustainable Use, and Distribution of Benefits from Brazilian Biodiversity”, published by the Ministry of the Environment in November 2003 and with a second edition published in May 2004. This map was produced based on the results of the workshops to assess the Brazilian biomes, conducted by several institutions, under the coordination of the Ministry of the Environment, and with the objective of identifying the priority areas and actions for the conservation, sustainable use, and distribution of benefits from Brazilian biodiversity. Workshops were conducted to assess the following biomes: Cerrado and Pantanal (coordinated by FUNATURA); Atlantic Forest and Uruguayan Savannas (coordinated by Conservation International of Brazil); Brazilian Amazon (coordinated by the Socio-environmental Institute), Caatinga (coordinated by the Federal University of Pernambuco); and Coastal and Marine Zone (coordinated by BioRio Foundation).

Additional information at http://www.mma.gov.br/?id_estrutura=14&id_conteudo=743

ARPA Project: This project defined a group of goals for biodiversity conservation in the Amazon. See comments in question 37.

37. Has your country taken action to establish or expand protected areas in any large or relatively unfragmented natural area or areas under high threat, including securing threatened species? (decision VII/28)	
a) No	
b) No, but relevant programmes are under development	
c) Yes, limited actions taken (please provide details below)	X
d) Yes, significant actions taken (please provide details below)	
Further comments on actions taken to establish or expand protected areas.	
Project for the Conservation and Management of Brazilian Ecosystems and Administration of	

the Federal System of Conservation Units [PROECOS – Projeto para Conservação e Manejo dos Ecossistemas Brasileiros e Gestão do Sistema Federal de Unidades de Conservação]. Executed by the Ecosystems Directorate of the Brazilian Institute for the Environment and Renewable Natural Resources (DIREC/IBAMA), this project has the objective of promoting the conservation and management of Brazilian ecosystems through the implementation of administration instruments for the Conservation Units, and of protection and management mechanisms for fauna and flora.

Creation and Enlargement of Federal Conservation Units

Cerrado: Enlargement of the Grande Sertão Veredas National Park by adding 147,307 hectares to the park area, increasing the park area from 89,000 ha to 236,307 ha.

Atlantic Forest: Creation of the Black Lion Tamarin Ecological Station, Mata Escura Biological Reserve, and Serra do Itajaí National Park, and enlargement of the Tijuca National Park, resulting in the addition of 110,242.92 ha of protected areas to the Atlantic Forest Biome.

Elaboration of Management Plans for Federal Conservation Units:

From 2002 to 2004, management plans were developed or revised for the following conservation units:

- Jau National Park (2002);
- Ubajara National Park (2002);
- Uatumã Biological Reserve (2002);
- Augusto Ruschi Biological Reserve (2002);
- Combios Biological Reserve (2002);
- Una Biological Reserve (2002);
- Gurupi Biological Reserve (2002);
- Anavilhanas Ecological Station (2002);
- Juami-Japurá Ecological Station (2002);
- Carijós Ecological Station (2002);
- Lençóis Maranhenses National Park (2003);
- Grande Sertão Veredas National Park (2003);
- Saltinho Biological Reserve (2003);
- Guaribas Biological Reserve (2003);
- Lagoa do Peixe National Park (2004);
- Araguaia National Park (2004);
- Aparados da Serra National Park (2004);
- Serra Geral National Park (2004);
- Pantanal Matogrossense National Park (2004);
- Serra das Confusões National Park (2004);
- Rio Trombetas Biological Reserve (2004);
- Arvoredo Marine Biological Reserve (2004);
- Guapimirim Environmental Protection Area (2004).

Units with Management Plans completed in 2004, approved by Administrative Rulings published in 2005:

- Emas National Park;
- Serra da Canastra National Park;
- Seridó Ecological Station.

Management Plans are being developed for the following units:

- Cairuçú Environmental Protection Area;
- Petrópolis Environmental Protection Area;
- Fernando de Noronha Environmental Protection Area;
- Planalto Central Environmental Protection Area;
- Morro da Pedreira Environmental Protection Area;
- Serra da Cutia National Park;
- Restinga de Jurubatiba National Park;
- Cavernas do Peruaçu National Park;
- Chapada dos Veadeiros National Park;
- Ilha Grande National Park;
- Chapada Diamantina National Park;
- Pacaás Novos National Park;
- Chapada dos Guimarães National Park;
- Serra da Bodoquena National Park;
- Serra do Cipó National Park;
- Tijuca National Park;
- Montanhas do Tumucumaque National Park;
- Amazônia National Park;
- Cristalino State Park;
- Tamoios Ecological Station;
- Raso da Catarina Ecological Station;
- Atol das Rocas Biological Reserve;
- Poço das Antas Biological Reserve;
- Tinguá Biological Reserve.

Main results (Period: 2002 to 2004):

- 11 Management Plans developed for National Parks
- 09 Management Plans developed for Biological Reserves
- 04 Management Plans developed for Ecological Stations
- 01 Management Plan developed for Environmental Protection Areas
- 05 Management Plans under development for Environmental Protection Areas
- 13 Management Plans under development for National Parks
- 01 Management Plan under development for State Park

- 02 Management Plans under development for Ecological Stations
- 03 Management Plans under development for Biological Reserves

TOTAL: 26 Management Plans developed.

24 Management Plans under development.

Capacity Building

Courses were conducted to train IBAMA environmental analysts and technicians from other institutions on the development of management plans. Main results:

- 28 environmental technicians trained in the state of Rondônia;
- 38 environmental technicians trained in the state of Amapá;
- 42 environmental technicians trained in the states of Mato Grosso and Mato Grosso do Sul;
- 34 environmental technicians trained in the state of Roraima; and
- 32 environmental technicians trained in the states of Santa Catarina and Paraná.

TOTAL: 174 environmental technicians (from IBAMA and other institutions) trained on the elaboration of management plans. <http://www.ibama.gov.br>

Implementation of Conservation Units

The actions concerning Conservation Units and conducted within IBAMA involve:

Management Council: 34 Management Councils for Conservation Units were created, and studies were conducted to assess their effectiveness, aiming at the development of proposals for training and regulatory actions.

Partnerships: Partnerships are constructed with municipalities, NGOs, universities and private sector with different objectives, such as publications, research, training, environmental education activities, and maintenance of the conservation units. The partnership between the Serra da Capivara National Park/IBAMA and the Homem Americano Foundation (FUNDHAM – *Fundação Homem Americano*, an OSCIP - civil organization of public interest), established according to Law 9985/00 for the co-management of the national park, deserves special mention.

Capacity Building: Several capacity building actions were conducted, to improve the level of training of the technical team responsible for the Conservation Units. Examples of these actions are: Course on Rapid Ecological Assessment; Course for Environmental Analysts based at Conservation Units; Training on the Basic Use of the Information System for Conservation Units [SIUC – *Sistema de Informação de Unidades de Conservação*]; Training Course for Directors of Conservation Units; Course on stereo photography to quantify vegetation biomass in the *cerrado* of Central Brazil.

Events: Conduction and support of events, among which: III and IV Brazilian Congress of Conservation Units; VIII National Meeting of Directors of Conservation Units.

Public Use: Projects were developed/implemented for the construction, remodelling, and recuperation of physical infrastructure in Conservation Units, in addition to permanent exhibits in the visitor centers, opening and maintenance of trails, signs, production of leaflets, acquisition of goods, economic viability studies, and carrying capacity studies. These actions benefited 55 Conservation Units during this period.

Land Tenure Regularization:

1. Properties and improvements to property were acquired inside the demarcated areas of the National Parks of Caparaó, Aparados da Serra, Chapada dos Guimarães, Serra do Cipó, Grande Sertão Veredas, and Serra da Bodoquena, and in the area of the Una Biological Reserve.
2. The georeferenced database of the conservation units was updated.
3. The National Census of Conservation Units was updated with the georeferenced data.
4. Partial land tenure assessments were conducted in the Una Biological Reserve, Murici Ecological Station, Lagoa do Peixe National Park, and Mata Escura Biological Reserve (rapid assessment).
5. A topographic and altitudinal assessment was conducted in the São Joaquim National park, including the inventory of existing properties.
6. The boundaries of the Una Biological Reserve were demarcated, and the demarcation process of the boundaries of the Amazônia National Park is currently under way.
7. The activities of land tenure regularization were adjusted to the existing organizational structure of IBAMA.
8. The matters referring to compensation payments for land and improvements to property inside conservation units were legally ordered.
9. A framework was defined for the National Plan for Population Relocation, and the Plan is currently being elaborated.
10. Action plans for land tenure regularization were elaborated for the following conservation units: São Joaquim National Park, Chapada Diamantina National Park, Una Biological Reserve, Ilha Grande National Park, Lagoa do Peixe National Park (RS), Nascentes do Paraíba National Park, Murici Ecological Station, Pedra Talhada Biological Reserve, and Cabo Orange National Park.

Development of the Methodological Framework for the Elaboration of Management Plans for Private Reserves of the Natural Heritage [RPPNs – *Reservas Particulares do Patrimônio Natural*]. This framework was elaborated by IBAMA/DIREC, with the collaboration of representatives from the National Confederation of Owners of RPPN, the Ministry of the Environment (MMA/SBF/DAP), representatives of RPPN owners, state governments, and non-governmental organizations (O Boticário Foundation for Nature Protection, among others).

In 2004, 1,500 copies of the framework were published, and a new edition with 5,000 copies was published in 2005. The document is available at <http://www.ibama.gov.br>.

Project for the conservation of biodiversity at the Natural Heritage Sites of Brazil. This is a program included in the Federal Government Pluri-annual Plan and executed by the Protected Areas Directorate (SBF/MMA), with the objective of implementing the CBD Protected Areas Programme of Work. Preliminary meetings of the National Coordination [CN – *Coordenação Nacional*] were conducted to define the managing structure of the project, and the process for transferring funds for the executing institutions. A conduct code was also defined for the use of the project image in marketing materials. The program was launched at national level, and was presented at the local level with the participation of local stakeholders, through local meetings at each site. Representatives of each site are being indicated to compose the National Coordination.

Program of Protected Areas in the Amazon [ARPA – Programa Áreas Protegidas na Amazônia]: This is a Federal Government program with a planned duration of ten years, and the objective of expanding, consolidating, and maintaining a part of National System of Conservation Units [SNUC – *Sistema Nacional de Unidades de Conservação*] in the Amazon Biome, protecting at least 50 million hectares and promoting the sustainable development of the region. The action strategy consists of:

- Identification of areas representative of the Amazonian ecological diversity.
- Creation and consolidation of conservation units of integral protection and of sustainable use, articulated in mosaics of protected areas.
- Development of strategies for the long-term financial sustainability of the conservation units, including the support of the development of local communities.
- Assessment of the effectiveness of the protected areas, through the monitoring of biological diversity.

The program defined the following goals:

- 2007: Create 18 million hectares of new conservation units of sustainable use or integral protection. Consolidate 7 million hectares of existing conservation units of integral protection.
- 2009: Create 19.5 million hectares of new national parks, biological reserves, and ecological stations. Consolidate 20.5 million hectares of existing conservation units.
- 2013: Reach a total of 50 million hectares protected by conservation units in the Amazon.

Additional information at www.mma.gov.br/port/sca/arpa .

PICUS Program (FUNBIO): see comments in question 33.

Protected Areas Program in Brazil: The program is part of the Federal Government Pluri-annual Plan, and has the objective of expanding and consolidating the National System of Conservation Units and other protected areas, aiming at the protection of Brazilian biodiversity and fair distribution of the deriving benefits. The resources will be distributed among the following actions: Support to the Creation and Management of Conservation Units; Conservation and Management of the Speleological Heritage; Management and Administration of the Program; Incentives to Projects Focusing the Management and Consolidation of Protected Areas; Creation of Federal Conservation Units; Management of Federal Conservation Units; Capacity Building for the Management of Conservation Units; Land Tenure Regularization of the Federal Conservation Units; Adequate the Infrastructure for Public Use in the Federal Conservation Units.

Additional information at <http://ce.mdic.gov.br/ppa/default.asp?txt=%C1reas+Protegidas+do+Brasil> .

Program for the Conservation and Recuperation of Brazilian Biomes: the program is part of the Federal Government Pluri-annual Plan, and has the objective of conserving and recuperating the following Brazilian biomes: Atlantic Forest, Uruguayan Savannas, Cerrado, Caatinga, Coastal and Marine Zone. The resources allocated to the program will be distributed among the following actions: Support of Projects for the Sustainable Use of the Biomes; Implementation of Ecological Corridors; Management and Administration of the Program; Recuperation of Degraded Areas; and Monitoring of Human Impacts. Information at <http://ce.mdic.gov.br/ppa/default.asp?txt=Conserva%E7%E3o+e+Recupera%E7%E3o+dos+Biom+Brasileiros> .

Project for the Conservation of the Atlantic Forest of Rio Grande do Sul: The project is jointly executed by the Rio Grande do Sul Zoobotanical Foundation and the State Secretariat for the Environment, and funded by the state government of Rio Grande do Sul, in partnership with the KFW Bank. This project started in 2004, and within its planned duration of 3 years, the following activities should be implemented:

- Biodiversity conservation, implementation of sustainable use of biodiversity, and life quality improvement of the population living within the Atlantic Forest region of Rio Grande do Sul.
- Development of diagnoses and management plans for the implementation of conservation units of integral protection. Development of pilot projects for environmental recuperation and implementation of alternative sustainable activities around conservation units.

Additional information at www.fzb.rs.gov.br .

Program of Incentives for Nature Conservation. Developed by O Boticário Foundation, this program funds research and protection projects on species that are important or endangered in their ecosystems, environmental education actions, sensitization campaigns, and events such as seminars and technical meetings on nature conservation. Preference is given to non-governmental organizations, although public institutions are not excluded, as long as the proposals are presented through their respective Foundations. The O Boticário Foundation publishes calls for proposals twice a year, for projects on the following general subjects: conservation unit management; conservation and management of endangered species; environmental enforcement and protection; promotion of the importance and management of urban green areas; control of invasive alien species; ecosystem restoration; development and implementation of environmental public policies and legislation; and applied research on ecology and nature conservation. For each call for proposals, the Foundation receives an average of 300 proposals (42 projects were approved in 2004). Since its creation in 1990, the Program supported 941 projects on nature conservation throughout the country, including projects on ecologically sustainable development. Additional information at www.fundacaoboticario.org.br/site/br/apoio/introducao.htm .

Protected Natural Areas Program. Developed by the O Boticário Foundation, this Program was created to protect areas of high biodiversity concentration, where a reasonable ecological balance still exists. The objectives of the Program are: to promote conservation on private lands; contribute to ensure that the public protected areas effectively protect the Brazilian natural heritage; and to create private nature reserves, ensuring the protection of natural areas that are important for biodiversity conservation. The Program comprises three priority actions:

1) Nature Reserves: One of the concrete results obtained by this initiative is the creation and maintenance of the first protected area belonging to the O Boticário Foundation: the Salto Morato Nature Reserve. Located on the Northern coast of Paraná state, this area protects a remaining fragment of one of the most threatened biomes in Brazil, the Atlantic Forest.

2) Incentive to the Conservation of Private Lands: To increase the extension of the total area under protection in Brazil, the Foundation provides incentives to private land owners to use legal mechanisms to protect their lands. By working in collaboration with private land owners, the Foundation provides legal information and indicates appropriate protection measures to implement effective actions on each property or area.

3) Strengthening of the National System of Conservation Units: The objective of this activity is to contribute to the implementation of the National System of Conservation Units, by providing useful information to increase the efficiency of the protected areas. To attain this objective, the Foundation applies a specific methodology to monitor and observe the conservation units, collecting data and information that are shared with the staff responsible for these units, and with other organizations around the world. This tool was developed in collaboration with the Parks Watch Program of the Duke University, and is applied in partnership with IBAMA (Brazilian Institute for the Environment and Renewable Resources).

Additional information at <http://www.fundacaoboticario.org.br/site/br/areas/introducao.htm> .

Paraná Biodiversity Project. This is a project of the Paraná State Government, which receives financial support from GEF (Global Environment Facility), through the World Bank. The main objective of this project is to recover the biodiversity of three ecological corridors: Araucária, Iguaçu – Paraná, and Caiuá – Ilha Grande. These corridors were selected due to their strategic importance as remaining fragments of original ecosystems of the Paraná state, and are mainly located within Conservation Units.

The project strategy includes: to structure an education process for the entire society, and a more efficient enforcement and control system; to structure a process of rural extension aiming at the recuperation of biodiversity and the development of a lower-impact agriculture; and the development of a series of studies to improve the management of natural resources. As an expected result of this strategy, vegetation fragments should be connected by ecological corridors. Additional information available at www.pr.gov.br/meioambiente/programa_biodivers.shtml .

Revision of the Management Plan of the Vila Rica State Park, Fênix-PR. The Vila Rica do Espírito Santo State Park (PEVR), in Fênix-PR, and specially the area surrounding the park, is one of the areas in the Atlantic Forest biome that were indicated by the Ministry of the Environment as priority areas for conservation and research. The revision of the management plan was conducted by the NGO Mater Natura. The completion of this work took 1 year and 8 months, and included the area surrounding the park and the area influenced by the park, in addition to the park itself. The revised Management Plan was published in December 2003. Information at www.maternatura.org.br .

The Vila Rica State Park and the conservation of biodiversity in Paraná. The main objective of this project was to obtain the parameters for monitoring the effects of the recomposition of the Seasonal Semi-deciduous Riparian Forest on the regional biodiversity, in the region surrounding the State Park. Information at www.maternatura.org.br .

Management Plan of the Conservation Units of Integral Protection in the State of São Paulo. The project was implemented by the São Paulo State Forestry Institute, and conducted the following activities:

- Serra do Mar State Park: work contract completed for experts on wildlife, cultural heritage, stress sources, and administration/finance services. These experts will conduct a diagnosis on the conservation unit.
- Elaboration of the draft version of the management plan for the Serra do Mar State Park, which included the systematization of all available information, the proposal of a preliminary zoning, and proposal of general actions for the management plans.

- Jaraguá State Park: completion of the vegetation mapping, mapping of soil use and occupancy, mapping of touristic activities, and physical mapping of the Conservation Unit. Works were initiated on the flora inventory, which will be added to the existing inventories to develop the zoning of the area and to plan management actions for the area.
- Ilhabela State Park: inventory and mapping processes were completed for the physical area of the park, vegetation, and soil use and occupancy. Contracts will be prepared for the conduction of inventories of wildlife, cultural heritage, and administration and financial activities. This material will later be used to develop the zoning and management programs for the conservation unit.
- Ilha do Cardoso State Park: the management plan was elaborated, and is now being revised for publication.
- Campina do Encantado State Park: information on the area surrounding the park, and on archaeological heritage, was added to the management plan. The text is being finalized, to be submitted for approval.
- Jurupará, Carlos Botelho, Intervalles, Turístico do Alto Ribeira, and Jacupiranga State Parks; and Xitué Ecological Station: terms of reference are being completed for hiring thematic inventories of: physical area, sources of stress, administration and finance, and cultural heritage.
- Juréia-Itatins Ecological Station: same as the previous item.

The project achieved: increase of the knowledge on the physical area, biology, and socio-economy of the Conservation Units; conflict resolution, seeking the harmonization of interests regarding the use of resources; proposals for the zoning and management of the Conservation Units – regulation of the territory, and rules and recommendations for protection activities, public use, research, and socio-environmental integration.

ECOVIAS OPERATING AGREEMENT – LAND TENURE INVENTORY AND LAND TENURE REGULARIZATION OF 10% OF THE SERRA DO MAR STATE PARK. Environmental compensation for the duplication of the Imigrantes Highway – Ecovias Company.

The Forestry Institute is participating in meetings with the São Paulo Land Institute Foundation [ITESP – *Fundação Instituto de Terras do Estado de São Paulo*] and the State Department of Justice [PGE – *Procuradoria Geral do Estado*] to define the inventories to be conducted in the Serra do Mar State Park.

Atlantic Forest Preservation Program (PPMA). See comments in Question 19.

Selection of Reserves for the Conservation of the Cerrado in São Paulo State. The Forestry Institute participated in two workshops conducted during the last decade, for the identification of cerrado areas to be prioritized for the conservation of this biome. One of the workshops focused exclusively on the state of São Paulo. However, every area indicated by these workshops contains a large number of vegetation fragments, and it is naturally not possible to transform every fragment into a conservation unit. Studies were conducted to establish the indicator criteria to select individual fragments, which will receive priority status for conservation. Considering that the state of São Paulo already possesses a network of protected areas, and that new conservation units have been created one by one, a grading method was developed, based on existing reserves, on the interpretation of satellite images, and on field data from rapid field assessments. Eighty-six areas were graded according to 15 indicators, grouped by biophysical attributes,

integrity of natural resources, and external influences (threats). The result is the ranking of the most important cerrado fragments in the state of São Paulo, according to their conservation value.

Creation of New Conservation Units in the State of São Paulo:

- Aguapeí State Park: Created by Decree nº 43269, of 02 July 1998, and encompassing 9,043.97 hectares of the Western region of the state, as a compensation for the environmental licence granted to the Engineer Sérgio Motta Hydroelectric Power Plant (Porto Primavera), built on the Paraná River by the São Paulo Energy Company [CESP – *Companhia Energética de São Paulo*]. The State Park is currently in the implementation phase, and the areas to compose the park were already acquired by CESP. The process of transferring the ownership of these areas from CESP to the State is currently under way. After the implementation of the Conservation Unit is completed, its management will become the responsibility of the Forestry Institute, a branch of the State Secretariat for the Environment.
- Rio do Peixe State Park: Created by Decree nº 47085, of 18 September 2002, and encompassing 7,720 hectares of the Western region of the state, as a compensation for the environmental licence granted to the Engineer Sérgio Motta Hydroelectric Power Plant (Porto Primavera), built on the Paraná River by the São Paulo Energy Company [CESP – *Companhia Energética de São Paulo*]. The areas to compose the park are currently under the process of being acquired by CESP, who will later transfer their ownership to the State. After its implementation, the Conservation Unit will be managed by the Forestry Institute, a branch of the State Secretariat for the Environment. Just like the Aguapeí State Park, this park is located in the Atlantic Forest, and will protect species such as the marsh deer (*Blastocerus dichotomus*), a highly endangered species.
- Creation of the Barreiro Rico Ecological Station: This conservation unit is being created by the State Secretariat for the Environment, through the Forestry Institute, with funds from the environmental compensation for the environmental licence granted to the expansion of a metallurgy company based in the municipality of Piracicaba, approximately 200 km from the São Paulo capital. To compose the park, the Forestry Institute is completing the acquisition process of part of a remaining dense forest fragment in the municipality of Anhembi, an area recognized as one of those containing the highest fauna richness, especially of primates, including the muriqui, or woolly spider monkey (*Brachyteles arachnoides*).

38. Has your country taken any action to address the under representation of marine and inland water ecosystems in the existing national or regional systems of protected areas? (decision VII/28)

a)	No	
b)	Not applicable	
c)	No, but relevant actions are being considered	
d)	Yes, limited actions taken (please provide details below)	X
e)	Yes, significant actions taken (please provide details below)	

Further comments on actions taken to address the under representation of marine and inland water ecosystems in the existing national or regional systems of protected areas.

Atlas of the Coral Reefs in Brazilian Conservation Units: Through the Secretariat for Biodiversity and Forests of the Ministry of the Environment, Brazil developed a project to map the coral reefs present in the several Brazilian conservation units. This project was developed in partnership with the National Institute for Space Research [INPE – *Instituto Nacional de Pesquisas Espaciais*] and the Coastal Reefs Project. This partnership elaborated the project “STUDY OF THE BRAZILIAN CORAL REEFS: TRAINING AND APPLICATION OF MAPPING TECHNIQUES USING REMOTE SENSING”, which received external funds from the Ramsar Convention initiative “Wetlands for the Future”. This project allowed the capacity building of 14 managers and technicians in the use of the remote sensing tool for mapping and managing areas containing coral reefs, and generated, as its main product, the “Atlas of the Coral Reefs in Brazilian Conservation Units” [*Atlas dos Recifes de Coral nas Unidades de Conservação Brasileiras*]. This publication has the merit of being the first to make maps of the Brazilian coral reefs available to the public. The next steps will be to indicate the representativeness of these habitats under some form of protection, and to identify new areas for the creation of other conservation units. The elaboration of the Atlas counted with the collaboration of 11 authors, and the publication contains a total of 39 maps of the 9 conservation units involved in the project. This product was the result of a 3-year collaboration among the involved institutions. Additional information at <http://www.mma.gov.br/port/sbf/dap/atlas2a.html> .

The **Special Secretariat for Aquaculture and Fisheries of the President’s Office**, through its Artisanal Fisheries Coordination, is implementing the technical cooperation and financial support of the National Center for the Sustainable Development of Traditional Populations [CNTP/IBAMA – *Centro Nacional de Desenvolvimento Sustentado das Comunidades Tradicionais*], for the creation of Conservation Units of Sustainable Use, in the category of Extractive Reserve, with the purpose of organizing the exploitation and sustainable use of the fisheries resources exploited by the traditional populations of the coastal zone.

Integration of the Management of Coastal and Marine Conservation Units in Santa Catarina: The mosaic of coastal and marine conservation units of the state of Santa Catarina represent the ideal sample for the development of integrated actions in the biology, administration, and institutional fields. This initiative included one state and five federal conservation units: Anhatomirim Environmental Protection Area, Baleia Franca Environmental Protection Area, Carijós Ecological Station, Arvoredo Marine Biological Reserve, Pirajubaé Marine Extractive Reserve, and Serra do Tabuleiro State Park. The general objective of the project is to “develop a model for integrated management based on the mosaic of coastal and marine Conservation Units of the state of Santa Catarina, according to Law nº 9985/00”. Additional information at <http://www.mma.gov.br/port/sbf/dap/index.cmf> .

Paranoá Lake Operation: conducted by the Secretariat for the Environment and Hydrological Resources of the Federal District during the period of April to August 2004, this Operation had the objective of protecting an important urban water body. The following activities were conducted:

- Inspection of the perimeter of the Paranoá Lake;
- Inventory and notification of the irregular occupancies in the permanent protection area of Paranoá Lake.
- Identification and notification of the violators.

The following results were obtained:

- 130 notifications issued for irregular occupancy;
- fines and demolitions of occupancies that represented serious violations;
- identification of illegal effluent emissions, and of degraded areas;
- monitoring operation to guard the shores of the Paranoá Lake.

Additional information at www.semarh.df.gov.br .

RUMAR [Coastal and Marine Units Network – Rede de Unidades Costeiras e Marinhas]. The RUMAR Program consists of a strategy for the creation, establishment and structuring of a Network composed by 74 decentralized units of IBAMA (among Conservation Units, Executive Offices, Regional Offices, and Specialized Centers). The Program encompasses approximately 93% of the Brazilian coastal line and adjacent marine waters, and has the objective of providing the necessary logistic and institutional support for the development of integrated actions of protection, monitoring, and generation of knowledge, capable of technically strengthening IBAMA, and of providing effective institutional presence at sea. The program actions were grouped into two modules. Module I contains the planned actions necessary to provide the decentralized units with the necessary means to systematically act at the coastal and marine zones, in addition to actions for the capacity building of IBAMA staff, and organization and expansion of the environmental information that has been historically generated. Module II will focus on the generation of knowledge to subsidize actions carried out by IBAMA, through partnerships with research and similar institutions.

39. Has your country identified and implemented practical steps for improving the integration of protected areas into broader land and seascapes, including policy, planning and other measures? (decision VII/28)	
a) No	
b) No, but some programmes are under development	
c) Yes, some steps identified and implemented (please provide details below)	
d) Yes, many steps identified and implemented (please provide details below)	X
Further comments on practical steps for improving integration of protected areas into broader land and seascapes, including policy, planning and other measures.	
<p>Biosphere Reserves: The SNUC [National System of Conservation Units – <i>Sistema Nacional de Unidades de Conservação</i>] incorporated the concept and function of the Biosphere Reserves into the Brazilian legal system. The selection and designation of Biosphere Reserves in Brazil followed the protection strategy of the Ministry of the Environment, which sought to privilege areas that are representative of the main Brazilian biomes. Brazil possesses six Biosphere Reserves: Atlantic Forest, São Paulo Green Belt, Cerrado, Pantanal, Caatinga, and Central Amazon. To strengthen these Brazilian reserves, UNESCO executed the project Consolidation of the Brazilian Biosphere Reserves (BRAMAB II), in partnership with the Ministry of the Environment [MMA – <i>Ministério do Meio Ambiente</i>]. The objective of this project is to consolidate the Brazilian Biospheres Reserves (BRA/MAB) as concrete instruments for environmental management and sustainable development, aiming at improving life quality within their scope, always with the active participa-</p>	

tion of the respective populations. The results of the project are:

- Operativeness of the Management System of the Brazilian Commission of the MAB Program [COBRAMAB – *Comissão Brasileira do Programa MAB*].
- Creation of new Brazilian Biosphere Reserves.
- Operativeness of the Management System of the Network of Brazilian Biosphere Reserves and support of their development.
- Identification and establishment of the mechanisms for the economical/financial sustainability of the Brazilian Biosphere Reserves.
- Implementation of the Management System of the Atlantic Forest Biosphere Reserve [RBMA – *Reserva da Biosfera da Mata Atlântica*].
- Publication or dissemination of environmental information on the Atlantic Forest and of RBMA experiences.
- Establishment of the Program to Support the Pilot Areas and Advanced Posts [PAAPPA - *Programa de Apoio às Áreas Piloto e Postos Avançados*] of Demonstrating Projects in Pilot Areas of the RBMA.
- Implementation of the Management System of the São Paulo Green Belt Biosphere Reserve [RBCV – *Reserva da Biosfera do Cinturão Verde da Cidade de São Paulo*].
- Implementation and strengthening of the Youth Program Network of the São Paulo Green Belt Biosphere Reserve.
- Implementation of the Research Program of the São Paulo Green Belt Biosphere Reserve.
- Implementation of the Management System of the Cerrado Biosphere Reserve [RBC – *Reserva da Biosfera do Cerrado*].
- Publication and dissemination of environmental information on the Cerrado and experiences of the Cerrado Biosphere Reserve.
- Establishment of the Program to Support the Pilot Areas and Advanced Posts (PAAPPA) of Demonstrating Projects in Pilot Areas of the RBC.

Additional information at:

http://www.unesco.org.br/areas/ciencias/ma/projetosma/bramabproj/mostra_projeto

IBAMA executes the following projects:

Ecological-Economic Zoning Program [ZEE – *Zoneamento Ecológico-Econômico*]. Program within the Federal Government Pluri-annual Plan, with the objective of promoting the ecological and economic zoning, to plan and organize, in a sustainable manner, the process of soil use and occupancy, thus subsidizing the territorial organization of the country. The program is executed by: Ministry of the Environment, IBAMA, Agency for the Development of the Amazon, and by the Ministry of National Integration.

Integrated Management of the Araguaia-Bananal Ecological Corridor. The Araguaia-Bananal Ecological Corridor is a regional planning unit, which includes conservation units already created (the core areas), and those in process of being created. The corridor has the main goal of promoting biodiversity conservation and sustainable development, through adequate strategies for the recuperation/restoration of

degraded areas, and the promotion of sustainable agriculture, environmental education, environmental management, research, and forestry management, to restore landscape connectivity. The project seeks to maximize cooperation among the several governmental levels and segments of civil society, to promote biodiversity conservation. The corridor encompasses an area of 158,934 km², involving 26 municipalities of the states of Tocantins, Pará, Goiás, and Mato Grosso. The region is a mosaic of vegetation types, including forests, savannas, and ecological transition areas. The area of the corridor is located in the Tocantins-Araguaia watershed, and possesses an important Ramsar site for the conservation of the Bananal Island, an area internationally recognized as a priority for the conservation of humid ecosystems. This is the largest watershed located entirely within the Brazilian territory, with approximately 813,674.1 km². Its main rivers are the Tocantins and the Araguaia. The area contains six conservation units and six indigenous reserves. Two conservation units are located at the Northern portion of the corridor area (the Cantão State Environmental Protection Area and the Cantão State Park); one is located in the central region (the Araguaia National Park), and three others to the South (Araguaia State Forest, Araguaia State Park, and Meandros do Araguaia Environmental Protection Area), totalizing 2,708,438 hectares. The six Indigenous Reserves in the region comprise approximately 2 million hectares.

Main results:

- Integrated management plan for the corridor concluded;
- Project management committee installed in Tocantins;
- 290 people trained in inter-institutional planning and coordination;
- 250 people trained in environmental education;
- Georeferenced database produced;
- Two municipal Agendas 21 elaborated.

Integrated Management of the Caatinga Ecological Corridor. This project was elaborated with the objective of conserving and organizing the sustainable use of natural resources. The project intends to adopt the bioregional planning and management method. The following actions are planned:

- a) study of ecological representativeness;
- b) study and monitoring of biodiversity;
- c) identification of areas for the creation of new conservation units;
- d) definition and establishment of ecological corridors;
- e) studies on the economic valuation of biodiversity.

Executing agencies: IBAMA, State Governments, UECE, UFPI, and UFPE.

Main results already produced:

- Diagnosis and planning for the integrated management elaborated;
- Work Group for the corridor established;
- 90 people from local communities trained in inter-institutional planning and coordination;
- 80 people from local communities trained in environmental management and education;
- 43 community entrepreneurs trained in ecotourism;
- 40 technicians trained in rapid participatory diagnosis;
- Priority areas for the creation of ecological corridors and conservation units identified.

Conservation of the Cerrado Ecosystem –Cerrado Ecological Corridor Paranã-Pirineus Project.

The project initiated in March 2003, in partnership with the Japan International Cooperation Agency (JICA), in the region located between the Pirineus Mountain Range (GO) and the Paranã Valley (GO/TO), including the North of the Federal District. The corridor includes core areas (Brasília National Park, Chapada dos Veadeiros National Park, Águas Emendadas Ecological Station, Rio Vermelho Headwaters Environmental Protection Area, and Private Reserves of the Natural Area of the region), as well as interstitial areas. The objective of the corridor is to implement the integrated management of ecosystems (Ecosystem Approach) in cerrado areas, as an innovative conservation strategy. The conclusion of this cooperation is planned for the end of 2005, and IBAMA should be in charge of the continuity of the project.

Main results:

1. The planning for the integrated management of the corridor was elaborated;
2. IBAMA was equipped for managing the corridor;
3. The community was sensitized about the integrated management and was involved in the management of the corridor;
4. The Federal, State, and Municipal Governments were integrated to manage the area of the corridor.

Integrated Management of the Guaporé-Itenez-Mamoré Ecological Corridor. The Guaporé-Itenez-Mamoré Ecological Corridor encompasses approximately 50% of the state of Rondonia, specifically the valleys of the Guaporé and Mamoré rivers. This is a natural corridor composed by 23 federal and state conservation units of different management categories, and 13 indigenous lands. Since the biodiversity richness extends also into the other side of the Guaporé river, which receives the name of Itenez in Bolivia, the project proposes to work in collaboration with Bolivia. The objectives of the project are to protect, conserve, and sustainably manage the natural resources of the region, aiming not only at biodiversity conservation, but also to improve life quality of the local populations. Main results:

- The Management Committee for the corridor was established;
- The planning for the integrated management of the corridor was elaborated (6 workshops were conducted);
- A study was concluded on ecological representativeness to identify gaps, aiming at the creation of new conservation units;
- A study was concluded on the land tenure regularization of the settlers installed in the region of the Guaporé valley;
- 480 people were trained in 12 courses on environmental education and sustainable economic activities on the corridor;
- 240 fishermen trained in 06 seminars on the organization of fishing activities in the Guaporé river valley;
- The local population was sensitized about conservation issues;
- The project complied with the 12 principles of the ecosystem approach proposed by CBD (V/6), according to the IUCN evaluation (2004).

Integrated Management of the Jalapão-Mangabeiras Ecological Corridor. This corridor encom-

passes five contiguous Conservation Units: Headwaters of the Parnaíba River National Park, Serra da Tabatinga Environmental Protection Area, Jalapão Environmental Protection Area, Jalapão State Park, and Serra Geral do Tocantins Ecological Station. The area proposed for the Corridor is an ecotone region (transition zone between two ecosystems – cerrado and caatinga), and contains a high rate of plant endemism, which explains its indication as an area of high priority for biodiversity conservation by the Brazilian government. The presence of the headwaters of the Tocantins, Parnaíba, and São Francisco rivers, contributed to the ecological importance of the bioregion of Jalapão – Chapada das Mangabeiras, a region that is very sensitive to human occupancy, due to its climatic, edaphic and hydrological conditions, which favour the accelerated appearance and development of erosion processes. The greatest challenge of the project consists of implementing development alternatives, aiming at abating the present situation of socio-environmental degradation of the region. The project has the objective of increasing the sustainability of natural resource use in the region (Chapada das Mangabeiras), by promoting the creation and implementation of conservation units, the protection of biodiversity, the recuperation of environmental quality, and the improvement of agricultural and livestock practices.

Main results:

- The plan for the integrated management of the corridor was elaborated;
- The diagnoses on the degraded areas and interesting ecotourism places were elaborated;
- The plan for the sustainable exploitation of the golden grass (*Syngonanthus* sp.) was implemented;
- 60 community members were trained on environmental management and education;
- 1,500 members of the Mateiros community received medical care at FUNASA to treat leprosy, tuberculosis, and Chagas disease.

Atlantic Forest Corridor Project in Espírito Santo. This program is executed in partnership by the following institutions: State Institute for the Environment and Hydrological Resources of Espírito Santo [IEMA – *Instituto Estadual do Meio Ambiente e Recursos Hídricos do Espírito Santo*] (project coordination), Espírito Santo Institute for Agriculture, Livestock, and Forestry Defence [IDAF – *Instituto de Defesa Agropecuária e Florestal do Espírito Santo*], Environmental Police Company, Brazilian Institute for the Environment and Renewable Natural Resources [IBAMA – *Instituto Brasileiro do Meio Ambiente e Recursos Naturais Renováveis*].

The main results achieved were:

- State Coordination Unit established and operating with 07 graduate-level technicians and 03 technical-school-level technicians;
- 10 Regional Meetings were conducted for project dissemination, mobilizing 825 people of 78 municipalities;
- Elaboration of the Management Plan for the Pedra Azul State Park;
- Conduction of the bird and mammal inventories at the Forno Grande State Park;
- Conduction of the land tenure assessment of the Pontões Capixabas National Park;
- Implementation of the Radio Communication System of the Itaúnas State Park;
- Conduction of 10 aerial patrol operations over the Atlantic Forest in 2004, covering the entire state of Espírito Santo;

- Elaboration of an Internet System to provide access to the enforcement database.

Additional information at www.iema.es.gov.br .

Establishment of Ecological Corridors in Rio Grande do Sul: The project, executed by the Department of Forests and Protected Areas of the State Secretariat for the Environment, initiated in January 2004, and the projected end date is December 2007. The project has the following objectives:

- To maintain and increase connectivity among natural areas to ensure the genetic flow among wild populations that suffered the impact of fragmentation and isolation due to habitat loss.
- To conserve wild species at areas under economic use, through the planning and management of protected natural areas, buffer zones, and connections among conservation units, to integrate the environmental and socio-economic aspects.

Additional information at www.sema.rs.gov.br .

Project for the Conservation and Management of Cerrado Biodiversity [CMBC – *Conservação e Manejo da Biodiversidade do Cerrado*]; Integrated bioregional management (Gesbio) of the region of Mambai-Posse. The project encompasses the municipalities of the Paran Valley / Pirineus and Chapa-da dos Veadeiros region: Mambai, Damianpolis, Iaciara, Abadinia, Alvorada do Norte, Simolndia, Flores de Gois, Stio D’Abadia, Pirenpolis, Corumb de Gois, Santo Antnio do Descoberto, So Domingos, Guarani, Formosa, Alto Paraso de Gois, Buritinpolis, Posse, and Cavalcante. The strategic objective of the project consists of promoting the conservation and sustainable use of natural resources of the Cerrado Biome, ensuring the sustainable social development. The project is coordinated by Embrapa Cerrados, in partnership with IBAMA, UnB, DEFID, and Royal Botanic Garden Edinburgh. Expected results are: definition of methods and application of strategies for the conservation and sustainable management of natural resources of the Cerrado biome; provide, to federal, state, and municipal public policy makers, NGOs and communities, information on strategies and methods for the conservation and sustainable management of Cerrado natural resources, considering the improvement of life quality, social and gender equity, and poverty reduction.

Main results:

- The plan for the integrated management of ecosystems was elaborated;
- The socio-economic and environmental diagnoses of the project area were concluded;
- 22 small economic projects with sustainable qualities were funded and implemented;
- 49 technicians and teachers were trained on environmental management and education;
- 50 community members were trained on sustainable activities: captive breeding of wild animal species; medicinal plants; agro-extractive activities; sustainable agriculture; and ecotourism.
- The Committee for Project Implementation [CIP – *Comit de Implantao do Projeto*] was established and is operational;
- A CD-ROM with data on ecological representativeness of the Cerrado biome, based on ecoregions, was published and distributed;
- 42 scientific documents on the project area were published.

Bioregional Management [Gesbio – *Gesto Biorregional*] of the Cerrado EcoMuseum. Since 1998,

IBAMA joined the Cerrado EcoMuseum project, which was already being developed by the Huah Institute of the Central Plateau [*Instituto Huah do Planalto Central*], with the objective of applying the concepts and methods of bioregional planning and management. The area of the EcoMuseum encompasses seven municipalities of the state of Goiás, the west portion of the Federal District, at the high Corumbá river watershed, and is part of the Paranã-Pirineus Ecological Corridor. This bioregion covers approximately 500,000 hectares, and contains a population of 240,000 inhabitants. The EcoMuseum concept presumes the existence of a territory containing well preserved natural heritage, scenic beauty, waterfalls, and rivers and forests, which may be visited and admired by local communities and visitors. The Cerrado EcoMuseum project has the objective of contributing to the environmental conservation of the high Corumbá river watershed, based on bioregional planning, and through cooperatively planned actions aimed at nature conservation, sustainable use of natural resources, and improvement of the life quality of local populations. Activities are developed to support local policies for biodiversity conservation, environmental sanitation, environmental education, and ecotourism, promoting the importance of popular knowledge, culture and art. The project is a pioneer initiative of successful bioregional management, coordinated and funded by IBAMA, with the technical cooperation of the Huah Institute of the Central Plateau. Project implementation counts with the participation of the Federal University of Goiás, Brasília University, State Government of Goiás, Municipal Governments, NGOs, and local communities. Main results:

- The plan for the integrated management of the corridor was elaborated;
- The Management committee for the EcoMuseum was established;
- The EcoMuseum Nucleus was established in Corumbá de Goiás;
- Computer equipment and educational materials were acquired;
- 80 people were trained on project elaboration; medicinal plants; sustainable agriculture; ecotourism; and computer use;
- The socio-economic and environmental diagnoses of the project area were updated;
- A computer station and a virtual network were established;
- 02 plant nurseries were established (at Pirenópolis and Cocalzinho);
- The Cerrado EcoMuseum Almanac was published.

Conduction of the II Seminar on Ecological Corridors

Summary of Activities:

1. Organization of the II Seminar on Ecological Corridors, at national level. The meeting joined participants from several South American countries, with a total of 350 national and international participants;
2. Publication of the book: "Ecological Corridors – An Ecosystem Integration Approach in Brazil" [*Corredores Ecológicos – Uma Abordagem Integradora de Ecossistemas no Brasil*], containing the annals of the I Seminar on Ecological Corridors, organized by IBAMA in collaboration with JICA;
3. Distribution of the book to IBAMA units, OEMAs [State Agencies for the Environment – *Órgãos Estaduais de Meio Ambiente*], public universities, and NGOs.

Main results:

- Consolidation of the methodology for the management of ecological corridors;
- 350 experts trained at technical workshops conducted during the Seminar;
- Information on the methodology for managing corridors was broadly distributed to technicians

working with the environment.

Bioregional Management of Lençóis Maranhenses/Parnaíba River Delta: This bioregion encompasses a complex of coastal and marine ecosystems, which constitute the Lençóis Maranhenses and the Parnaíba river delta. It involves a mosaic of ecosystems of high environmental relevance, marked by the transition of terrestrial and marine habitats. The following connected sequence of conservation units is located in this region: Lençóis Maranhenses National Park, Parnaíba River Delta Federal Environmental Protection Area, and state environmental protection areas covering an area of 485,800 hectares. The area of sedimentary soil named Lençóis Maranhenses was originated by the combined action of winds, waves, and marine currents, which formed dunes that now cover an extension of up to 50 km from the coast and reach up to 20 m of height, forming a desert-like landscape. The delta of the Parnaíba river is characterized by its branching arms, forming an archipelago of approximately 70 islands of varied dimensions, separated by a labyrinth of river channels, which form rivers, streams, *igarapés* (narrow water channels), dunes and lagoons surrounded by broad and well-preserved extensions of mangroves. The project aims at developing actions for the conservation and sustainable use of the natural resources, and at cooperatively organizing the human occupancy of the area. The project is being developed by IBAMA/DECOE, in partnership with UFMA, UECE, UEPIS, and state and municipal governments. It is the intention of the executing agencies to establish this project as a milestone in the conservation of this unique ecosystem of the Brazilian coast. Additional information at www.ibama.gov.br/ecossistemas .

Tocantins State System of Conservation Units: The inexistence of a protected natural areas system in the state contributed to aggravate the problems generated by the destruction of significant portions of ecosystems present in the state, including the destruction of their biodiversity. Therefore, the state elaborated specific legislation to create the state system of nature conservation units, including the rules for the creation, establishment and management of conservation units in the state of Tocantins, and for the explanation of reasons or justification for their creation. This was an initiative of the Secretariat for Planning and the Environment [SEPLAN – *Secretaria de Planejamento e Meio Ambiente*], funded by the Ministry of the Environment. Additional information at www.seplan.to.gov.br .

Goiás State System of Conservation Units [SEUC – *Sistema Estadual de Unidades de Conservação*]: The project for the creation and establishment of this system initiated in 2003, and has been conducting the following activities:

- Law nº 14247/2002 – SEUC Law: Created in 29 July 2002, this law institutes the Goiás State System of Conservation Units. The law is currently being revised and regulated by the State Environmental Council [CEMAM – *Conselho Estadual de Meio Ambiente*], through the Conservation Units Permanent Technical Chamber.
- Creation, establishment and management of state Conservation Units: The SEMARH [State Secretariat for the Environment and Hydrological Resources – *Secretaria Estadual de Meio Ambiente e Recursos Hídricos*] is working on the establishment and management of two conservation units: Altamiro de Moura Pacheco State Park, and João Leite Environmental Protection Area.
- Studies are being conducted for the creation of a Wildlife Refuge on the south-eastern portion of the state, which should connect with the Emas National Park.

- Identification of priority areas for conservation in the state.
- Law nº 14241/2002 – State Wildlife Law: Created in 29 July 2002, this law institutes the protection of the wild fauna in the state. State Decree nº 5899, which regulates this law, was signed in 09 February 2004.
- The Forestry Law and the Fisheries Law of the state of Goiás are also being revised.

Additional information at www.semarh.goias.gov.br .

Rio Grande do Sul State System of Conservation Units: The Department of Forests and Protected Areas of the State Secretariat for the Environment of Rio Grande do Sul state is conducting the following activities, aiming at the creation of a State System of Conservation Units [SEUC – *Sistema Estadual de Unidades de Conservação*]:

- Elaboration of the SEUC plan; creation and establishment of state and municipal conservation units; and delivery of the conservation units list to the Government Department of Revenue, in order to receive the Green VAT.
- Determination of the priority areas for new conservation units; implementation of biological corridors through the establishment of municipal conservation units.

Additional information at www.sema.rs.gov.br .

Program for the Territorial Management of the North of Tocantins State: The following work was completed: flora and fauna study; elaboration of the Ecological and Economic Zoning [ZEE - *Zoneamento Ecológico-Econômico*] of the North of Tocantins State; elaboration of the Program for the Territorial Management of the North of Tocantins State. The project was conducted during the years of 2003 and 2004, funded by the Tocantins state, the Ministry of the Environment, and the PPG7. The main result was the identification and mapping of 04 areas, which were indicated in the ZEE as priority areas for the establishment of conservation units of integral protection.

Program for the Establishment of Conservation Units in Mato Grosso do Sul: This is an initiative of the state government of Mato Grosso do Sul, initiated in 2004. The following activities are conducted:

- Elaboration of the management plan for the Pantanal do Rio Negro State Park, supported by CI Brazil and by funds from environmental compensation;
- Elaboration of the management plan for the Várzeas do Rio Ivinhema State Park, with funds from environmental compensation provided by CESP;
- Elaboration of the management plan for the Matas do Segredo State Park, supported by UNIDERP and funds from environmental compensation;
- Elaboration of the management plan for the Rio Formoso Natural Monument and the Gruta do Lago Azul Natural Monument, supported by UCDB and WWF.

The main results obtained by the program are:

- Elaboration and publication of management plans;
- Improvement of the management of State Conservation Units;
- Establishment of the public use of State Parks;

- Zoning of the State Parks;
- Creation of a georeferenced database.

Additional information at www.sema.ms.gov.br .

Program for the Support and Promotion of the Creation of Private Reserves of the Natural Heritage [RPPNs – *Reservas Particulares do Patrimônio Natural*] in Mato Grosso do Sul: This program is executed by the state government of Mato Grosso do Sul, and initiated in 2002. The following actions are being conducted:

- Creation of a commission to elaborate a proposal for revising the State Legislation on the creation of RPPNs in Mato Grosso do Sul;
- Production and distribution of informative folders;
- Provide incentives for the creation and maintenance of RPPNs, through the Green Vat program. In this state, 5% of the Green VAT is re-directed to municipalities which contain Conservation Units and Indigenous Lands in their territories.

The most important results achieved by the program are:

1. Increase of the number of private protected areas created in the state, totalizing 20 RPPNs and 50,000 hectares;
2. Creation of the first two RPPNs created by the state in the Paraná watershed;
3. The establishment of the program improved the agility of processes conducted by the state for the creation of RPPNs, in comparison with the processes conducted at the federal level, to create federal RPPNs. This fact encouraged land owners to seek preferably the state to request the creation of private reserves.
4. Support to the municipalities in the creation and maintenance of RPPNs, with funds from the Green VAT, through activities such as:
 - RPPN creation: providing information on the necessary procedures; elaboration of maps containing property description, technical support, etc.;
 - RPPN maintenance: construction of firebreaks, maintenance of access roads, etc.

Additional information at www.sema.ms.gov.br .

Central Corridor of the Atlantic Forest. The Ecological Corridors Program “Central Corridor of the Atlantic Forest” is coordinated by the Ministry of the Environment and executed by the states of Espírito Santo and Bahia. The objective is to form biodiversity corridors through the maximization of the connectivity among protected areas, by providing the necessary conditions to the development and establishment of integrated policies to promote projects involving both the traditional system of conservation units, and the interstitial areas among them, and in the case of the Amazon Forest, including indigenous lands as well. The program encompasses the municipalities located between the delta of the Jequiriçá river in Bahia, and the north of Espírito Santo state, totalizing 83 municipalities from Bahia and 50 from Espírito Santo. The vast portion of the corridor located in the state of Bahia presents local characteristics that define a group of three different ecoregions: Low South, South, and Extreme South. The heavy exploitation of natural resources in these areas, particularly during the last 60 years, resulted in the suppression of 95% of the original forest cover. Despite the intense fragmentation and isolation process, the main remaining forest fragments, which are mostly located by the coast, were incorporated into conservation units (national and

state parks, biological reserves, environmental protection areas, and private reserves of the natural heritage). These remaining protected fragments are privileged places on which to base the establishment of strategies and public policies for re-establishing and maintaining the biological connectivity among them. The first phase of the project in Bahia (March 2003 to July 2005) may be considered as a structuring phase of the project management, and will include the budget planning for the second phase, which will begin in the second semester of 2005. In Bahia, the actions included in the first phase involve: (i) structuring of the state coordination unit [UCE-BA – *Unidade de Coordenação Estadual-Bahia*], (ii) strengthening the management of state and federal conservation units, (iii) integrated enforcement operations, (iv) monitoring the forest cover, and (v) elaboration of a management plan for the corridor. The second phase will involve the funding of projects selected by the management committee of each state, according to directives and criteria to be defined.

Sub-Global Assessment: Millennium Ecosystem Assessment (UNESCO). The São Paulo Greenbelt Biosphere Reserve is conducting the following activities:

- Inventory of the universities, research institutions, researchers and scientists, that conduct research on the diagnosis and study of environmental goods and services (biodiversity, water, soil, air, vegetation cover, foods, fibres, forestry products, leisure, culture, etc) within the São Paulo Greenbelt Biosphere Reserve [RBCV – *Reserva da Biosfera do Cinturão Verde da Cidade de São Paulo*].
- Recruitment of researchers for the elaboration of a systemic diagnosis on the status of environmental goods and services within this Biosphere Reserve.
- Organization of a scientific workshop with the participation of researchers, to present the proposal of the Millennium Assessment in the world and at RBCV, and to discuss the conduction of the assessment process.
- Organization of a workshop with the participation of environmental users, to discuss the proposal of the Millennium Assessment in the world and at RBCV with representatives of the private sector, organized civil society, and municipal, state and federal government.
- Participation in international meetings of the Millennium Assessment. Funding source: UNESCO.

Main results:

- 02 expert workshops
- 01 users workshop
- 01 speech at the Forestry Institute delivered to representatives of the Millennium Assessment – offices of Malaysia and United States.
- Report containing the initial ecosystem diagnosis within RBCV
- “International Seminar on the Millennium Ecosystem Assessment”, conducted on 01 April 2005 at IPEN/USP, in São Paulo.

40. Is your country applying environmental impact assessment guidelines to projects or plans for evaluating effects on protected areas? (decision VII/28)

a) No	
b) No, but relevant EIA guidelines are under development	
c) Yes, EIA guidelines are applied to some projects or plans (please provide details below)	
d) Yes, EIA guidelines are applied to all relevant projects or plans (please provide details below)	X
Further comments on application of environmental impact assessment guidelines to projects or plans for evaluating effects on protected areas.	
<p>Law nº 9985, of 18 July 2000, which instituted the National System of Conservation Units [SNUC – <i>Sistema Nacional de Unidades de Conservação</i>], defines in Article 36 that “in those cases of concession of environmental licence for ventures which cause significant environmental impact, considered as such by the competent environmental agency based on the environmental impact study and respective report (EIA/RIMA), the entrepreneur is required to support the establishment and maintenance of conservation unit(s) in the Group of Integral Protection”. This Law also defines that “when the venture affects a specific conservation unit or its buffer zone, the licence may only be granted by means of an authorization from the entity responsible for its administration, and the affected unit should be one of the beneficiaries of the compensation defined in this article”.</p> <p>Decree nº 4340, of 22 August 2002 defines a compensation system for activities that cause a significant environmental impact. The funds obtained through the compensation system are applied to:</p> <p>I. land tenure regularization and land demarcation;</p> <p>II. elaboration, revision or implementation of management plan;</p> <p>III. acquisition of goods and services necessary for the establishment, management, monitoring, and protection of the conservation unit, including its buffer zone;</p> <p>IV. conduction of the studies necessary for the creation of a new conservation unit; and</p> <p>V. development of the research necessary for managing the conservation unit and its buffer zone.</p> <p>The Environmental Compensation Chamber was created within IBAMA, with deliberation function, with the objectives of deciding on the distribution of environmental compensation funds to be applied on the existing or future conservation units, and proposing the plan for the use of the resources received as environmental compensation.</p>	

41. Has your country identified legislative and institutional gaps and barriers that impede effective establishment and management of protected areas? (decision VII/28)	
a) No	
b) No, but relevant work is under way	
c) Yes, some gaps and barriers identified (please provide details below)	
d) Yes, many gaps and barriers identified (please provide details below)	X

Further comments on identification of legislative and institutional gaps and barriers that impede effective establishment and management of protected areas.

Two major problems faced by Brazilian protected areas can be highlighted:

1. The total area protected in each biome is insufficient for the conservation of biodiversity (a minimum of 10% of integral protection by biome is necessary, according to the conclusions of the "IV International Congress on Protected Areas", Caracas 1992).
2. The protected areas already created have not yet completely attained the objectives that motivated their creation.

However, the present conjuncture indicates that unique opportunities are arising, which create a favourable environment to overcome the challenges mentioned above. The National System of Conservation Units [SNUC – *Sistema Nacional de Unidades de Conservação*] opens the possibility of creating a system of conservation units which integrates, under one legal instrument, the conservation units under the responsibility of the three governmental levels (federal, state and municipal).

42. Has your country undertaken national protected-area capacity needs assessments and established capacity building programmes? (decision VII/28)

a) No	
b) No, but assessments are under way	X
c) Yes, a basic assessment undertaken and some programmes established (please provide details below)	
d) Yes, a thorough assessment undertaken and comprehensive programmes established (please provide details below)	

Further comments on protected-area capacity needs assessment and establishment of capacity building programmes.

43. Is your country implementing country-level sustainable financing plans that support national systems of protected areas? (decision VII/28)

a) No	
b) No, but relevant plan is under development	X
c) Yes, relevant plan is in place (please provide details below)	
d) Yes, relevant plan is being implemented (please provide details below)	

Further comments on implementation of country-level sustainable financing plans that support national systems of protected areas.

ARPA Project: see comments in question 37.

The **National Program of Protected Areas** is responsible for the implementation of the National System of Conservation Units [SNUC – *Sistema Nacional de Unidades de Conservação*], and acts in partnership with institutions and programs which fund the creation, implementation and maintenance of Protected Ar-

areas, according to the SNUC definitions. The creation and administration of protected areas in Brazil are conducted in a decentralized manner; therefore, there must be a distribution of the funds earmarked for this purpose. This distribution occurs through the funding of projects planned and implemented by state and municipal governments, and by non-governmental institutions. The institutions that fund these projects in partnership with the National Program of Protected Areas are:

- Brazil Parks Program;
- International Bank for Reconstruction and Development (IBRD, www.worldbank.org.br);
- Inter-American Development Bank (IADB, www.iadb.org);
- World Wide Fund for Nature (WWF, www.wwf.org.br);
- Financial Fund for the Development of the Prata Watershed [FONOPALATA – *Fondo Financiero para el Desarrollo de la Cuenca del Plata*];
- Brazilian Biodiversity Fund (FUNBIO – *Fundo Brasileiro para Biodiversidade*, www.funbio.org);
- National Environment Fund (FNMA – *Fundo Nacional do Meio Ambiente*, www.mma.gov.br/port/fnma/capa/fnma.html);
- Global Environment Facility (GEF, www.gefweb.org);
- Wetlands For the Future, Ramsar Convention (WFF, <http://ramsar.org>);
- Small Grants Fund for Wetlands Conservation and Wise Use (<http://ramsar.com>, www.iucn.org);
- O Boticário Foundation for Nature Protection (www.fbpn.org.br).

Additional information at <http://mma.gov.br/port/sbf/dap/ffinanci.html>.

<p>44. Is your country implementing appropriate methods, standards, criteria and indicators for evaluating the effectiveness of protected areas management and governance? (decision VII/28)</p>	
a) No	
b) No, but relevant methods, standards, criteria and indicators are under development	X
c) Yes, some national methods, standards, criteria and indicators developed and in use (please provide details below)	
d) Yes, some national methods, standards, criteria and indicators developed and in use and some international methods, standards, criteria and indicators in use (please provide details below)	
<p>Further comments on methods, standards, criteria and indicators for evaluating the effectiveness of protected areas management and governance.</p>	

RAPPAM: In an initiative of the Forestry Institute, the Rapid Assessment and Prioritization of Protected Area Management (RAPPAM) was applied for the first time in Brazil, in 2004, in partnership with the World Wide Fund for Nature (WWF) and the Forestry Foundation, to assess the management applied by the Atlantic Forest System of Conservation Units.

Period of implementation: May/2004 to 14 December 2004 (first phase); 06 January 2005 to December 2005 (second phase).

The method is based on the application of a questionnaire involving: stresses and threats; biological importance; socio-economic importance; vulnerability; objectives; legal framework; design and planning of the area; human resources; communication and information; infrastructure; financial resources; planning; decision-making process; research, evaluation and monitoring; design of the system of conservation units; conservation unit policies; political environment.

In addition to representing an important tool for the evaluation of the implementation and management of the São Paulo State System of Conservation Units, RAPPAM also contributes to the systematization and record keeping of information in a single database, which is a standard for all conservation units. Additional information at http://www.wwf.org.br/publicacoes/download/rappam_pub_estudosp.zip

Diagnosis of the occupancies and use of permanent protection areas along the streams Mato Seco, Cedro and Ribeirão do Gama, in the Federal District: Conducted by the Secretariat for the Environment and Hydrological Resources of the Federal District, the diagnosis comprises the following activities:

- Inspection along the permanent protection areas to identify illegal occupancies;
- Application of a questionnaire for the occupants of the area, producing primary information on the history of the occupancy, as well as on the real situation of the social aspect of the area;
- Compilation and analysis of the legal framework on the "occupancy of permanent protection areas";
- Conduction of lectures for community mobilization and sensitization about environmental issues, directed at the Association of Producers of the Vargem Grande Rural Community, and residents of the Park Way Mansions Sector;
- Voluntary environmental community work for cleaning the Gama stream (*Ribeirão do Gama*) and the proximities of the Vargem Bonita community, to create awareness among the residents.

Box V.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) During the last few years, great effort was applied to strengthen the National System of Conservation Units [SNUC – *Sistema Nacional de Unidades de Conservação*]. The creation of the National Forum of Protected Areas reflects the pledge of the country towards complying with the compromises assumed by CBD. Approximately 8.5% of the Brazilian territory is protected by conservation units. The strengthening of the SNUC has been allowing the creation of new federal conservation units, and providing incentives for the creation of state conservation units. Another highlight is the great attention being dedicated to the creation of ecological corridors, and to proposals for the integrated management of landscapes. Important progress: ecological corridors, progress on the elaboration of management plans for conservation units, ARPA (see comments in question 38), green VAT, and creation of RPPNs.
- b) **CBUC – Brazilian Congress on Conservation Units** [*Congresso Brasileiro de Unidades de Conservação*]. Considering the importance of the conservation units theme, and the lack of consistent approaches on the issue, the O Boticário Foundation, in partnership with the National Network Pro-Conservation Units, in addition to other local institutions, initiated in 1997 the conduction of the Brazilian Congresses on Conservation Units. This has become one of the most respected periodic events on conservation in Latin America.
- c) The creation of the National Forum of Protected Areas (see comments in question 36) significantly contributed towards achieving objective 4 of the Strategic Plan of the Convention (National biodiversity strategies and action plans and the integration of biodiversity concerns into relevant sectors serve as an effective framework for the implementation of the objectives of the Convention).
- d) The creation of Conservation Units and the strengthening of the SNUC contribute towards achieving objective 8 (maintaining ecosystem capacity of providing goods and services) of the 2010 Goals.
- e) The initiatives regarding the creation and strengthening of conservation units contribute to the implementation of the second directive of component 2 of the National Biodiversity Policy (conservation of ecosystems in conservation units). The initiatives related to the management of landscapes, ecological corridors, and biosphere reserves, contribute to the implementation of the first directive of component 2 of the National Biodiversity Policy (promotion of *in situ* biodiversity and ecosystem conservation actions in areas not established as conservation units, maintaining the ecological and evolutionary processes, and the sustainable offer of environmental services).
- f) The fraction of protected areas in relation to the total surface of the country is one of the indicators related to Goal 9 of Objective 7 of the MDGs. The initiatives concerning the creation of conservation units are, therefore, direct contributions for the implementation of this objective.
- g) The percentage of protected area relative to the Brazilian territory is still insufficient to ensure the adequate protection of biodiversity. Some biomes receive little attention, such as the caatinga and cerrado. Difficulties identified: limited public participation and involvement of social players; need for greater political support; limited inclusion of biodiversity issues across other sectors of society; lack of pro-active preventive measures, causing reactive policies; weakened institutions that cause a lack of capacity for action; lack of human resources; lack of technology and expertise transfer; loss of traditional knowledge; lack of capacity building on adequate scientific research to support all objectives; lack of knowledge and of documenta-

tion on the loss of biodiversity and the goods and services it provides; limited use of scientific and traditional knowledge; insufficient information dissemination at the national and international levels; lack of public education and sensitization at all levels; lack of financial and human resources; lack of economic incentive measures; lack of benefit distribution; lack of synergy at the national and international levels; lack of horizontal cooperation among social actors; lack of effective partnerships; lack of engagement of the scientific community; need to adapt existing policies and legislation; poverty; population pressures; unsustainable production and consumption standards; lack of capacity at local communities; climate change; natural disasters.

Article 8(h) - Alien species

45. Has your country identified alien species introduced into its territory and established a system for tracking the introduction of alien species?	
a) No	
b) Yes, some alien species identified but a tracking system not yet established	X
c) Yes, some alien species identified and tracking system in place	
d) Yes, alien species of major concern identified and tracking system in place	

46. Has your country assessed the risks posed to ecosystems, habitats or species by the introduction of these alien species?	
a) No	
b) Yes, but only for some alien species of concern (please provide details below)	X
c) Yes, for most alien species (please provide details below)	

Further information on the assessment of the risks posed to ecosystems, habitats or species by the introduction of these alien species.

National Report on Invasive Alien Species: The Project for the Conservation and Sustainable Use of Brazilian Biodiversity [PROBIO – *Projeto de Conservação e Utilização Sustentável da Biodiversidade Brasileira*] supports the elaboration of a national report on invasive alien species, which will compile important information on the needs and priorities of the country concerning this issue. The report is composed by 4 subprojects:

- Subproject 1: invasive alien species that affect the marine environment. Executing and partner institutions: Aquatic Studies and Research Foundation [FUNDESPA – *Fundação de Estudos e Pesquisas Aquáticas*]; Oceanographic Institute of the University of São Paulo, Biosciences Institute of

the University of São Paulo, Zoology Museum of the University of São Paulo, Biomedical Sciences Institute of the University of São Paulo, Biology Institute of the Federal University of Rio de Janeiro, University of Taubaté, Almirante Paulo Moreira Institute for Marine Studies.

- Subproject 2: invasive alien species that affect the terrestrial environment. Executing and partner institutions: The Nature Conservancy of Brazil (TNC), Hórus Institute for Development and Environmental Conservation.
- Subproject 3: invasive alien species that affect human health. Executing and partner institutions: Foundation for the Scientific and Technological Development on Health [FIOTEC – *Fundação para o Desenvolvimento Científico e Tecnológico em Saúde*]; Oswaldo Cruz Foundation.
- Subproject 4: invasive alien species that affect the agriculture, livestock, and silviculture production systems. Executing and partner institutions: Research and Agribusiness Support Foundation [FAGRO – *Fundação de Apoio à Pesquisa e ao Agronegócio*]; EMBRAPA – Genetic Resources and Technology; EMBRAPA Goats, EMBRAPA Forests, EMBRAPA Beef Cattle, EMBRAPA Swines and Birds.

Additional information at http://www.mma.gov.br/index.cmf?id_estrutura=14&id_conteudo=683 .

VIGIAGRO: see comments in question 21.

I Brazilian Symposium on Invasive Alien Species: This Symposium will be conducted in October 2005, in Brasília, and will address the following themes: invasive alien species of flora and fauna; invasive alien species in production systems; invasive alien species that affect human health; continental and marine aquatic environments; terrestrial environments; risk assessment, prevention, eradication, control; executive action planning; legislation; information systems; costs associated to impacts caused by biological invasions. Additional information at www.institutohorus.org.br .

Alien Plants Project: The Teaching and Applied Research Nucleus [NEPA – *Núcleo de Ensino e Pesquisa Aplicada*], the Hórus Institute, and The Nature Conservancy, are conducting a national inventory of invasive alien species. All information is being gathered in a database provided to the project by the Bariloche University in Argentina, which developed a similar work in partnership with the Inter-American Biodiversity Information Network (IABIN). Additional information available at <http://www.nepa.org.br/plantasExoticas/projetoPlantas.aspx> .

Public Notice CT-Hidro/MCT/CNPq nº 043/2004, for the following priority areas: 1. Management of hydrological resources; 2. Water conservation in the urban environment; 3. Sustainability at Brazilian environments; 4. Integrated and efficient water use. One of the guidelines/themes was that of “Control of aquatic invasive species”.

Forum on Invasive Species and Sustainable Development of Rio Grande do Sul: established in 2003, as a joint initiative of the Institute for the Development of Alternative Energies and Self-Sustainability [IDEAAS – *Instituto para o Desenvolvimento de Energias Alternativas e da Auto-Sustentabilidade*] and the Hórus Institute for Development and Environmental Conservation. The Forum has the objective of establishing an agenda to combat biological invasions, to be executed by the partici-

pants of the Forum. Priorities were defined by work groups, which focused the following themes:

- a) Information research and systematization;
- b) Public policies and legal framework;
- c) Management models for forest species;
- d) Management models for savannah species;
- e) Integration among productive sectors;
- f) Fund raising

Additional information at http://www.ideaas.org.br/id_proj_forum.htm .

GISP – Global Invasive Species Program. The GISP was established in 1997 to deal with global threats caused by invasive alien species, and to support the implementation of Article 8 of the CBD. Its mission is to conserve biodiversity and minimize the dissemination and impact of invasive alien species. In addition to: improve the scientific base for decision-making on invasive species; establish rapid assessment and response systems; increase capacity for managing invasive species; abate economic impacts caused by invasive species and create control methods; develop better risk assessment methods; strengthen international agreements. GISP applies efforts to: develop public education on invasive species; better understand the ecology of invasive species; develop new conduct codes for the movement of species; develop institutional and legal work plans for the control of invasive species; develop new tools to quantify the impact of invasive species.

47. Has your country undertaken measures to prevent the introduction of, control or eradicate, those alien species which threaten ecosystems, habitats or species?		
a)	No	
b)	No, but potential measures are under consideration	
c)	Yes, some measures are in place (please provide details below)	X
d)	Yes, comprehensive measures are in place (please provide details below)	
Further information on the measures to prevent the introduction of, control or eradicate those alien species that threaten ecosystems, habitats or species.		
Law nº 5197 of 03 January 1967: Establishes that no species may be introduced in the country without an official technical opinion and a licence issued according to the Law.		
IBAMA Administrative Ruling 79-P of 03 March 1975: States, concerning the kill of invasive alien species: Article 10. During the entire year, those animals considered as pests may be controlled or killed according to an authorization issued exclusively by the presidency of IBDF, in response to a previous request presented by the land owner, who shall include in the request the location of the property, the animals for which the classification of pests is required, and the names of the people indicated to conduct the		

control of these animals.

1st Paragraph: The Department of National Parks and Equivalent Reserves, through its Division of Nature Protection, will provide technical opinion before a species is considered a pest.

2nd Paragraph: In its technical opinion, the department will, in case it agrees with the request of the interested party, specify which location, which species, and during which period of time and conditions the declaration of the particular species being a pest will remain effective.

IBAMA Administrative Ruling nº 142/94, of 22 December 1994: Prohibits the introduction, transfer, cultivation, and commercialization, of living individuals of the following fish species, in the watershed area of the Amazonas and Paraguai rivers: North African catfish (*Clarias gariepinus*) and Channel catfish (*Ictalurus punctatus*).

IBAMA Administrative Ruling nº 119, of 17 October 1997: Establishes rules for the introduction and re-introduction of fish, crustaceans, mollusks and algae for aquaculture activities, excluding the species of essential ornamental purpose, and prohibits, during five years, the introduction of non-ornamental freshwater fish species.

CONAMA Resolution nº 237, of 19 December 1997: The location, construction, installation, expansion, modification, and operation, of ventures and activities which use environmental resources, and which are considered effectively or potentially pollutant, as well as those ventures capable of degrading any type of environmental degradation, will depend on a previous licence issued by the appropriate environmental entity, with no exclusion of other licences required by law. The following are some of the activities or ventures subject to environmental licence: Use of Natural Resources (silviculture; economic exploitation of wood or firewood and forestry subproducts; activities managing alien fauna or wild fauna breeding facilities; use of the genetic natural heritage; management of living aquatic resources; introduction of alien and/or genetically modified species; biotechnological use of biodiversity).

Inter-ministry Administrative Ruling nº 290, of 15 April 1996: Ministries of Agriculture, Provisioning and Agrarian Reform; of Education and Sports; of Science and Technology: Determines to the entities under Direct or Indirect Administration of the Ministries listed above, as well as their operating entities, under the responsibility or guidance of which research is conducted on phytosanitation or related areas, that the detection or characterization of any pest, be it fungus, bacterium, virus, virus-like, nematode, insect, or pest plant, until then considered inexistent on national territory, shall immediately notify the Secretariat for Agriculture and Livestock Defence of the Ministry of Agriculture, Provisioning and Agrarian Reform [SDA/MAARA – *Secretaria de Defesa Agropecuária/Ministério da Agricultura, do Abastecimento e da Reforma Agrária*], before the information is made public.

Once the presence of the new pest is notified, it is the responsibility of the SDA/MAARA, through the Department of Plant Defence and Inspection [DDIV – *Departamento de Defesa e Inspeção Vegetal*], to conduct an inventory of the geographical distribution of the pest on national territory, and of the control and eradication possibilities. According to the distribution of the pest on national territory, the SDA/MAARA will take the necessary measures to notify the World Trade Organization (WTO), requesting the alteration of the list of pests subject to quarantine and the permission to publicize the information.

Law n° 9605 of 12 February 1998: Establishes the punishment for those who introduce an animal specimen in the country without an official favourable technical opinion and a licence issued by the appropriate authority (detention of 3 months to one year, and fine), and for those who disseminate disease or pest or species which may cause harm to agriculture, livestock, fauna, or ecosystems (imprisonment of one to four years, and fine).

Concerning the kill of invasive alien species, this law establishes that killing such an animal is not a crime, when the action is taken to protect farming fields, orchards and herds, from the predatory or destructive action of animals, as long as it is done under specific authorization of the appropriate authority, since the animal is harmful, as long as it is characterized as such by the appropriate entity.

IBAMA Administrative Ruling n° 93, of 07 July 1998: Prohibits the import of live specimens with breeding purposes for commercial purposes; the maintenance of an animal in captivity as a pet or ornament; and to exhibit the specimens in itinerant or fixed shows, except in zoological gardens; of specimens of the following taxa:

I. invertebrates;

II. amphibians (except the bullfrog *Rana catesbiana*);

III. reptiles;

IV. birds of the species *Sicalis flaveola* and its subspecies;

V. mammals of the Orders: Artiodactyla (except those considered domestic for IBAMA operation purposes), Carnivora, Cetacea, Insectivora, Lagomorpha, Marsupialia, Pennipedia, Perissodactyla, Proboscidea, Rodentia, and Sirenia.

IBAMA Administrative Ruling n° 145, of 29 October 1998: Establishes rules for the introduction, re-introduction and transfer of fish, crustaceans, mollusks and aquatic macrophytes, with aquaculture purposes, excluding the ornamental animal species. Prohibits the introduction of freshwater fish species, as well as of freshwater macrophytes.

The re-introduction will only be allowed for the purposes of: 1. genetic improvement or establishment of breeding herd or flock; 2. biological assays; 3. bio-indication.

IBAMA Normative Ruling n° 03, of 15 April 1999: Establishes the criteria for issuing Environmental Licences to ventures and activities which involve the management of alien wildlife and of Brazilian wildlife in captivity.

These criteria will be established based on the different levels of risk or impact that such ventures and activities represent to the ecosystems, at the local or regional level, in case of an escape from captivity.

Decree n° 3179, of 21 September 1999: Establishes the fines for those who introduce, import or disseminate alien species or pests in the country.

Prohibits the import or export of any aquatic species, at any stage of the life cycle, as well as the introduction of native or alien species into Brazilian jurisdictional waters, without the authorization of the appropriate environmental entity. Prohibits the dissemination of diseases or pests or species that may cause harm

to agriculture, livestock, wildlife or ecosystems.

Normative Ruling SDA n° 38, of 14 October 1999: Ministry of Agriculture, Livestock and Supply / Secretariat for Agriculture and Livestock Defence. Establishes the list of Pests Subject to Quarantine A1 and A2, and the Regulated No-Quarantine Pests, which require special attention from all members of the phytosanitary defence in the country, and specially noting those of high potential risk, for which the Maximum Alert is established.

(Pests Subject to Quarantine A1: those not present in the country, but with the characteristic of being the potential cause of important economic damage, if introduced.)

Pests Subject to Quarantine A2: those of potential economic importance, already present in the country, but which are not widely distributed and possess an official control program.)

(Regulated No-Quarantine Pests: those that are not subject to quarantine, the presence of which in plants, or plant parts, for cultivation, influences its proposed use with unacceptable economic impacts).

Law n° 9985, of 18 July 2000: Prohibits the introduction of non-autochthonous species into conservation units, however excluding from the determinations of this article the Environmental Protection Areas, the National Forests, the Extractive Reserves, and the Reserves for Sustainable Development, as well as the animals and plants necessary for the administration and to the activities of the other categories of conservation units, according to what is determined by the unit's Management Plan. The breeding and maintenance of domestic animals, and the cultivation of plants considered compatible with the purposes of the conservation unit, according to what is determined by the unit's Management Plan, are allowed in private areas located inside Wildlife Refuges and Natural Monuments.

Decree n° 4339, of 22 August 2002: Institutes principles and directives for the implementation of the National Biodiversity Policy.

The Decree includes the following objectives concerning invasive alien species:

10.1.8. Conduct the inventory of, and map, the invasive alien species and problem-species, as well as the ecosystems in which they were introduced, to guide studies on the impacts generated by this introduction and control actions.

10.3.6. Promote and support research to provide the necessary information to prevent, eradicate and control invasive alien species and problem-species, which may affect biodiversity, agriculture, livestock, silviculture and aquaculture activities, and human health.

11.1.12. Coordinate actions with the entity responsible for sanitary and phytosanitary control, to exchange information, aiming at preventing the entry in Brazil of invasive alien species that may affect the biodiversity in the country.

11.1.13. Promote the prevention, eradication and control of invasive alien species which may affect biodiversity.

11.2.3. Support actions of the official entity for phytosanitary control, aiming at preventing the introduction of pests and invasive alien species into areas around and inside conservation units.

13.1.1. Support the development of methodologies and indicators for monitoring the biodiversity components in ecosystems and the environmental impacts responsible for their degradation, including those

caused by the introduction of invasive alien species and problem-species.

13.1.8. Support the actions of the official entity responsible for sanitation and phytosanitation, aiming at monitoring invasive alien species to prevent and abate the impacts of pests and diseases on biodiversity.

13.2.6. Support the conduction of risk assessments and studies on the impacts of the introduction of potentially invasive alien species, potential problem-species, and others that may threaten biodiversity, economic activities and human health; and support the creation and implementation of control mechanisms.

13.2.7. Promote and perfect actions for the prevention, control and eradication of invasive alien species and problem-species.

13.2.19. Establish mechanisms for determining the conduction of studies on environmental impact, including Strategic Environmental Assessment, for large-scale projects and ventures, including those that may generate aggregated impacts, which involve biological resources, including those using alien species and genetically modified organisms, when they may potentially cause significant environmental degradation.

Normative Ruling n° 2, of 09 January 2002: Ministry of Agriculture, Livestock and Supply / Secretariat for Agriculture and Livestock Defence. Approves the Rules for Notification of Occurrences of Alien Pests in the Country.

CONAMA Resolution n° 312, of 10 December 2002. Rules on the environmental licensing of crustacean breeding ventures on the coastal zone.

SPECIFIC LEGISLATION BY SPECIES:

European wild boar (*Sus scrofa*):

Administrative Ruling n° 33, of 31 March 1998: Maintains the prohibition on import and inter-state transport of European wild boars, *Sus scrofa scrofa*. The facilities to breed European wild boars already installed on national territory should remain on hold until the publication of the Administrative Ruling which will regulate the captive breeding of alien wildlife for commercial purposes, which will be published by IBAMA in no later than 60 (sixty) days.

Administrative Ruling n° 102, of 15 July 1998: Establishes that the commercial captive breeding facilities for European wild boars already installed or operational, duly documented by acquisition Invoice or Import Licence issued by the Ministry of Agriculture, or Animal Transit Permit [GTA – *Guia de Trânsito Animal*], will have 180 (one hundred and eighty) days counted from the date of publication of this Administrative Ruling on the *Diário Oficial da União*, to seek IBAMA and adjust their situation to the rules established by this Administrative Ruling. After this deadline, IBAMA may demand the slaughter of the animals.

IBAMA Administrative Ruling n° 03, of 15 April 1999: Establishes the rules for maintaining and managing the European wild boar in captivity, and establishes the civil and criminal responsibilities in case of animal escape into nature, and for the harm caused to people and public or private property.

IBAMA Administrative Ruling n° 25, of 31 March 2004: Authorizes, with experimental character, the management of the European wild boar – *Sus scrofa* – for species population control, through capture and kill, in the state of Rio Grande do Sul, for the period of one year, counted from the date of publication of this Administrative Ruling.

Establishes that the capture and kill of European wild boars will only be allowed within the following municipalities of Rio Grande do Sul state: Aceguá, Arroio Grande, Arroio dos Ratos, Bagé, Bom Jesus, Cambará do Sul, Candiota, Caxias do Sul, Cerrito, Fagundes Varela, Herval, Hulha Negra, Ipê, Jaguarão, Jaquirana, Muitos Capões, Nova Prata, Pedras Altas, Pedro Osório, Pinheiro Machado, Piratini, Santa Tereza, São Francisco de Paula, Vacaria, and Viamão.

Giant African land snail (*Achatina fulica*):

IBAMA Official Letter: Technical Opinion (Official Letter nº 006/03 – CGFAU, of 17 January 2003) issued by IBAMA concerning process nº 02001.001772/02-19 on the Organization and Ruling of the Captive Breeding of the Alien Species *Achatina fulica*.

Technical Opinion (20 January 2003) DPC/PPP/DDIV – nº 003/03 issued by the Ministry of Agriculture, Livestock and Supply on the control and eradication of the alien mollusk *Achatina fulica*.

Chinese freshwater mussel (*Limnoperna fortunei*):

MMA Administrative Ruling nº 494, of 22 December 2003: Institutes, within the Ministry of Environment, the National Task Force (FTN) to control the *Limnoperna fortunei* (Chinese freshwater mussel, or golden mussel).

Control, management and monitoring of the invasive wildlife and wildlife in disequilibrium. The action was conducted by IBAMA within the Program for the Conservation, Sustainable Use and Recuperation of Biodiversity, a program of the Federal Government Pluri-annual Plan. The main activities developed were:

- Diagnosis, at the IBAMA Executive Offices in each state and at specialized centers, of the problems involving invasive species.
- Implementation of the Action Plan for the control of the giant African land snail (*Achatina fulica*) in the states of Rio Grande do Sul, Santa Catarina, Paraná, São Paulo, Rio de Janeiro, Mato Grosso, Rio Grande do Norte (Pilot), Pará and Amazonas, in partnership with the Municipal Governments of the cities infested with the species.
- Publication of the Normative Rulings (nº 24/04 and nº 25/04), which authorize the kill, for population control, of the European wild boar (*Sus scrofa scrofa*) and the monk parakeet (*Myiopsitta monachus*) in Rio Grande do Sul.
- Project for the control and monitoring of the giant African land snail (*Achatina fulica*), European brown hare (*Lepus europaeus*), and European wild boar (*Sus scrofa*), in the state of São Paulo, developed by Ibama's Regional Offices in the state.
- Pilot project for the control of feral European wild boar (*Sus scrofa*) in the state of Santa Catarina, currently under way in the rural area of Chapecó – SC.

The main results attained by the program were:

- Increase of the knowledge on invasive alien species and the related processes (means and routes of dispersal, area of occurrence and major impacts caused).
- Establishment of contacts and partnerships with governmental and non-governmental organizations, which develop work on themes related to invasive alien species.

- Publication of Normative Rulings concerning the control of invasive alien species and urban-adapted species (European wild boar and monk parakeet) in Rio Grande do Sul.
- Regional programs developed by the Ibama Executive Offices and Regional Offices in the states are currently under way (control and monitoring of invasive alien species and urban-adapted species).
- Action Plan for the control of the giant African land snail (*Achatina fulica*) implemented at all regions of the country where the infestation occurs.

Program for the Phytozoosanitary Safety in the Transportation of Agriculture and Livestock Products. Program within the Federal Government Pluri-annual Plan, with the objective of preventing the introduction and dissemination of pests and diseases into agriculture and livestock activities. The program is executed by the Ministry of Agriculture, Livestock and Supply.

Environmental Surveillance conducted by the National Epidemiology Center: The National Health Foundation [FUNASA – *Fundação Nacional de Saúde*], through the National Epidemiology Center [CENEPI – *Centro Nacional de Epidemiologia*] and with the legal support of Decree nº 3450 of 10 May 2000, which establishes that it is the responsibility of the CENEPI to “manage the national system for environmental surveillance”, is structuring the National System of Environmental Surveillance for Health [SNVA - *Sistema Nacional de Vigilância Ambiental em Saúde*]. This system prioritizes information, within the field of environmental surveillance, on biological factors (vectors, hosts, reservoirs, venomous animals); water quality for human consumption; chemical and physical environmental contaminants which may interfere with water, air and soil quality; and the risks resulting from natural disasters and accidents involving dangerous products.

GLOBAL BALLAST WATER MANAGEMENT PROGRAMME – GLOBALLAST. This program is an initiative of the International Maritime Organization (IMO), with the support of the Member States and the shipping industry, and has the objective of supporting developing countries in dealing with the ballast water problem. This program is funded by GEF, through UNDP.

The project aims at reducing the transfer of undesirable alien marine species, which have in the ships' ballast water the vector of their dissemination. The project seeks to assist developing countries in the implementation of the voluntary measures recommended in Resolution A.868 (20) – IMO: “Directives for the Control and Management of Ships' Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogenic Agents”, a resolution which has already been translated and distributed by the Directorate of Ports and Coasts [DPC – *Diretoria de Portos e Costas*] to the Maritime Community and Port Authorities.

The Ministry of the Environment (MMA) is the Coordinating Agency for the GloBallast Programme in Brazil, and the Secretariat for Environmental Quality at Human Settlements [SQA – *Secretaria de Qualidade Ambiental em Assentamentos Humanos*] was appointed as the “National Focal Point” for the program. To implement its activities, the Focal Point has the assistance of the Project for the Integrated Management of Coastal and Marine Habitats [GERCOM/SQA – *Projeto de Gestão Integrada dos Ambientes Costeiro e Marinho*], of a Technical Assistant, and of a “National Task Force”, which is integrated by a multidisciplinary team of specialists and collaborators from universities and other institutions.

To attain its general objectives, the Program possesses a series of immediate objectives, which concern the conduction of specific activities. These objectives are:

- Program Coordination
- Communication, education and mobilization
- Risk assessment
- Management measures for ballast water
- Compliance, monitoring and effectiveness
- Regional cooperation and multiplication
- Resources and funding

This is a 4-year program (initially 3 years, from March 2000 to March 2003, but extended until March 2005), with the total budget of 10.2 million dollars, including: 7.39 million dollars from GEF, and 2.80 million dollars from a joint fund established by the six member states.

Ballast Water: The Brazilian Navy is elaborating a Maritime Authority Rule [Normam – *Norma de Autoridade Marítima*], which will determine that all ships arriving at Brazilian ports should replace ballast water no closer than 200 miles off the coast and on depth of at least 200 meters. This decision was made at a workshop on the Convention on Ballast Water and the Challenge of Protecting the Country from Invasive Aquatic Species, promoted by the Ministry of the Environment and Transpetro, and conducted in November 2004. The meeting joined technicians and researchers from the Ministries of the Environment, Transportation, Health, and Science and Technology, in addition to representatives of the nautical industry. This meeting approved the elaboration of a work agenda which should define the action plan to manage and control ballast water at port zones. It is estimated that at least 7,000 aquatic species are daily transported among different regions of the world in ships' ballast water. The action plan aims at providing continuity to the work that has been developed for the last six years by the Globallast Programme, executed by IMO with funds from the Global Environment Facility (GEF). The program has the purpose of reducing the transfer of alien species and assisting the country in the preparation to implement the new international convention on the control and management of ballast water.

Combating the Chinese freshwater mussel: Through the Ministry of the Environment, Brazil conducted a national campaign to combat the Chinese freshwater mussel (or golden mussel), with the objective of disseminating information on the problems caused by this mussel's invasion and the need to contain its expansion. The campaign will also present an Emergency Action Plan, approved by the national task force for the control of the Chinese freshwater mussel. The plan includes the use of sodium hypochlorite in reservoirs where concentrations of this mussel are detected and anti-incrustation paint on vessels' hulls. The task force is coordinated by the Secretariat for Environmental Quality of the Ministry of the Environment, and includes representatives of the Ministries of Mines and Energy, Agriculture, Integration, Health, Transportation, and Navy, in addition to state governments and sanitation and energy companies.

48. In dealing with the issue of invasive species, has your country developed, or involved itself in, mechanisms for international cooperation, including the exchange of best practices? (decision V/8)		
a)	No	X

b)	Yes, bilateral cooperation	
c)	Yes, regional and/or subregional cooperation	
d)	Yes, multilateral cooperation	

49. Is your country using the ecosystem approach and precautionary and bio-geographical approaches as appropriate in its work on alien invasive species? (decision V/8)		
a)	No	X
b)	Yes (please provide details below)	
Further comments on the use of the ecosystem approach and precautionary and bio-geographical approaches in work on alien invasive species.		

50. Has your country identified national needs and priorities for the implementation of the Guiding Principles? (decision VI/23)		
a)	No	
b)	No, but needs and priorities are being identified	X
c)	Yes, national needs and priorities have been identified (please provide below a list of needs and priorities identified)	
Further comments on the identification of national needs and priorities for the implementation of the Guiding Principles.		
National Report on Invasive Alien Species: see comments in question 46.		
PROJECTS SUPPORTED BY PROBIO		
PUBLIC NOTICE 04/2001: PROBIO/FNMA: Management of endangered species and invasive species, aiming at the conservation of the Brazilian biological diversity.		
<ul style="list-style-type: none"> • EMBRAPA – CPAR – “wild” buffaloes of the Guaporé Biological Reserve, RO – diagnosis: To produce a diagnosis of the feral buffalo population inside the Guaporé Biological Reserve, which will allow the development of a species control program for the medium and long term. • EMBRAPA – Semi-arid – Management of the areas invaded by mesquite trees (<i>Prosopis juliflora</i>): information collection to elaborate a management plan for the areas invaded by mesquite, aiming at reducing the expansion of invaded areas and promoting the rational use of the species for forage, firewood and charcoal, and assist in the conservation of the caatinga biodiversity. • Foundation for the Institutional Support of Scientific and Technological Development (FAI-UFSCar) – Monitoring and Development of Technologies for the Management of Freshwater Alien Species: To increase knowledge on the invasive fish species <i>Cichla ocellaris</i> (peacock cichlid) and <i>Plagioscion squamosissimus</i> (South American silver croaker), and the gastropod <i>Melanoides tuberculata</i>, 		

at the medium and low Tietê River, at the Lobo Reservoir, and at the natural lakes of the Rio Doce valley, aiming at the development of integrated management techniques through *in situ* and laboratory experiments.

- Foundation for Scientific and Technological Ventures [FINATEC – *Fundação de Empreendimentos Científicos e Tecnológicos*] – Management plan for the lizard *Tupinambis merianae*: Elaboration of a management plan for the invasive species *T. merianae*, which includes the population control of the species on the island of Fernando de Noronha, captive breeding studies, and a possible re-introduction experiment for the species at areas of natural occurrence on the continent.
- Federal University of Mato Grosso do Sul [UFMS – *Universidade Federal do Mato Grosso do Sul*] – Management of the aquatic macrophyte *Gomphrena elegans* (Mart.) in Bonito/MS: Elaboration of an adequate and efficient management for the invasive species *Gomphrena elegans*.
- Regional University of Blumenau [FURB – *Universidade Regional de Blumenau*] – Study of agents to control the yellow elder *Tecoma stans*: Identify and study potential control agents for *Tecoma stans* (Bignoniaceae) in the south of Brazil, providing information for the elaboration of a management plan for the integrated control of this species.
- Emas Foundation – Control of invasive grasses in the Emas National Park.
- Atlantic Forest Research Institute [IPEMA – *Instituto de Pesquisa da Mata Atlântica*] – Ecology of alien fish species in the medium Doce river.
- Federal University of Paraná – Ballast water: risk assessment, management plan and monitoring of alien species at the Paranaguá port.

PUBLIC CONSULTATION: National Report on Invasive Alien Species

- Foundation for Aquatic Studies and Research [FUNDESPA – *Fundação de Estudos e Pesquisas Aquáticas*] – Organisms affecting the marine environment.
- The Nature Conservancy of Brazil (TNC) – Report on invasive alien species: organisms that affect the terrestrial environment.
- Foundation for the Scientific and Technological Development in Health [FIOTEC – *Fundação para o Desenvolvimento Científico e Tecnológico em Saúde*] – Invasive alien species that affect human health.
- EMBRAPA Genetic Resources and Technology – Report on invasive alien species: agriculture, livestock and silviculture production systems.
- Arthur Bernardes Foundation [FUNARBE – *Fundação Arthur Bernardes*] – Report on invasive species that affect continental waters (Fauna, Flora and Micro-organisms).

FORUM ON INVASIVE ALIEN SPECIES AND SUSTAINABLE DEVELOPMENT. In August 2002, the Hórus Institute and IDEAAS [Institute for the Development of Alternative Energy and Self-Sustainability – *Instituto para o Desenvolvimento de Energias Alternativas e da Auto-Sustentabilidade*] conducted two workshops on invasive alien species and sustainable development: one in Ponta Grossa (PR) and one in Porto Alegre (RS). As a result, a permanent forum was created to discuss the issue, initially limited to Rio Grande do Sul. In addition, the workshop indicated the clear need to create a group to deal with invasive animal species, especially from the aquatic fauna, given the initiative of the state government of Rio Grande do Sul to introduce new invasive alien fish species.

National inventory of invasive alien species: The Hórus Institute and the Nature Conservancy are conducting a national inventory of invasive alien species. The data are being compiled in a database provided by the Bariloche University (Argentina), which developed similar work in partnership with IABIN (Inter American Biodiversity Network). The preliminary species recorded by the inventory are available online. The project intends to include more data, and make the entire database available for free online access. http://www.institutohorus.org.br/trabalhos_levantamento.htm .

51. Has your country created mechanisms to coordinate national programmes for applying the Guiding Principles? (decision VI/23)	
a) No	X
b) No, but mechanisms are under development	
c) Yes, mechanisms are in place (please provide details below)	
Further comments on the mechanisms created to coordinate national programmes for implementing the Guiding Principles.	

52. Has your country reviewed relevant policies, legislation and institutions in the light of the Guiding Principles, and adjusted or developed policies, legislation and institutions? (decision VI/23)	
a) No	X
b) No, but review under way	
c) Yes, review completed and adjustment proposed (please provide details below)	
d) Yes, adjustment and development ongoing	
e) Yes, some adjustments and development completed (please provide details below)	
Further information on the review, adjustment or development of policies, legislation and institutions in light of the Guiding Principles.	
See comments on "Ballast Water" in question 47.	

53. Is your country enhancing cooperation between various sectors in order to improve prevention, early detection, eradication and/or control of invasive alien species? (decision VI/23)	
a) No	X
b) No, but potential coordination mechanisms are under consideration	

c) Yes, mechanisms are in place (please provide details below)	
Further comments on cooperation between various sectors.	
See comments in question 47.	

54. Is your country collaborating with trading partners and neighbouring countries to address threats of invasive alien species to biodiversity in ecosystems that cross international boundaries? (decision VI/23)	
a) No	X
b) Yes, relevant collaborative programmes are under development	
c) Yes, relevant programmes are in place (please specify below the measures taken for this purpose)	
Further comments on collaboration with trading partners and neighbouring countries.	
<p>Invasive Alien Species Information Network (I3N): Developed by the Reference Center on Environmental Information [CRIA – <i>Centro de Referência em Informação Ambiental</i>], the project is currently at its initial phase of implementation, and has the objective of developing an inter-operating information network on invasive species in the Americas. The Inter-American Biodiversity Information Network (IABIN) developed a tool for recording information, which was tested by organizations of the following countries: Argentina, Brazil, Bahamas, Chile, Dominican Republic, Ecuador, El Salvador, Guatemala, Jamaica, Mexico, Paraguay, Peru and United States. Some “model” databases are available at the Internet: researchers catalogue, projects catalogue, and species list. Information at http://i3n.cria.org.br.</p> <p>Brazil is a member state of the Agreement on the Application of Sanitary and Phytosanitary Measures of the World Health Organization and of the International Plant Protection Convention of the Food and Agriculture Organization of the United Nations (FAO).</p> <p>The agreements signed with South American countries were listed in the following publication of the Directorate of the National Program on Biodiversity Conservation of the Ministry of the Environment: “National Biodiversity Strategies in South America: Perspectives for Regional Cooperation” [<i>Estratégias Nacionais de Biodiversidade na América do Sul: Perspectivas para Cooperação Regional</i>]. The book was published in 2004, and the whole text is available in:</p> <p>Portuguese (http://www.mma.gov.br/index.cmf?id_estrutura=37&id_conteudo=1918),</p> <p>English (http://www.mma.gov.br/index.cmf?id_estrutura=37&id_conteudo=1919),</p> <p>and Spanish (http://www.mma.gov.br/index.cmf?id_estrutura=37&id_conteudo=1920).</p> <p>Other bilateral agreements were included in the First National Report for the CBD (Chapter VI- Box 6-1c), published in 1998 and available at http://www.mma.gov.br/?id_estrutura=14&id_conteudo=1876, as well as at the site of the Ministry of External Affairs (MRE) http://www.mre.gov.br/portugues/politica_externa/relacoes/index.asp</p>	

55. Is your country developing capacity to use risk assessment to address threats of invasive alien species to biodiversity and incorporate such methodologies in environmental impact assessment (EIA) and strategic environmental assessment (SEA)? (decision VI/23)	
a) No	X
b) No, but programmes for this purpose are under development	
c) Yes, some activities for developing capacity in this field are being undertaken (please provide details below)	
d) Yes, comprehensive activities are being undertaken (please provide details below)	
Further information on capacity development to address threats of invasive alien species.	
<p>CONAMA: Resolution nº 305, of 12 July 2002, of the National Environmental Council [CONAMA - <i>Conselho Nacional do Meio Ambiente</i>], establishes the requirement of an environmental licence and environmental impact assessment for any activity involving the use of any genetically modified organism. Additional information at http://www.mma.gov.br/port/conama/res/res02/res30502.html .</p>	

56. Has your country developed financial measures and other policies and tools to promote activities to reduce the threats of invasive species? (decision VI/23)	
a) No	X
b) No, but relevant measures and policies are under development	
c) Yes, some measures, policies and tools are in place (please provide details below)	
d) Yes, comprehensive measures and tools are in place (please provide details below)	
Further comments on the development of financial measures and other policies and tools for the promotion of activities to reduce the threats of invasive species.	
See comments in question 47.	

Box VI.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:	
<ul style="list-style-type: none"> a) outcomes and impacts of actions taken; b) contribution to the achievement of the goals of the Strategic Plan of the Convention; c) contribution to progress towards the 2010 target; d) progress in implementing national biodiversity strategies and action plans; e) contribution to the achievement of the Millennium Development Goals; f) constraints encountered in implementation. 	
a)	The National Report on Invasive Alien Species (see comments in question 46) is the first na-

tional diagnosis on this issue. This diagnosis is being conducted within the implementation of Article 8h of the CBD. Based on this diagnosis, policies and actions may be planned with the objective of minimizing harm to biodiversity caused by alien species. Concerning marine alien species, eradication actions are currently under way – an area of the implementation of Article 8h which presented larger progress. Important progress achieved: Ballast water project (see comments in question 47), Chinese freshwater mussel (see comments in question 47), South American Meeting (Brasilia 2001).

- b) The initiatives do not directly contribute to the implementation of the CBD Strategic Plan.
- c) The initiatives directly contribute to achieving Objective 6 (Control of the impact of invasive alien species) of the CBD 2010 Goals.
- d) The initiatives Contribute towards achieving Objective 13 of the first directive of Component 2 of the National Biodiversity Policy (Promote the prevention, eradication and control of invasive alien species which may affect biodiversity); the development of the National Report on Invasive Alien Species contributes to Objective 6 of the second directive of Component 4 of the National Biodiversity Policy (Support the conduction of risk assessments and impact assessments of the introduction of potentially invasive alien species, potential problem-species, and other species that may threaten biodiversity, economic activities and human health, and the creation and implementation of control mechanisms).
- e) The initiatives contribute to Goal 9 of Objective 7 of the MDGs.
- f) The major obstacle to the implementation of Article 8h is the absence of specific legislation concerning invasive alien species, associated to the great ease with which such species enter the national territory. The following difficulties were identified: limited public participation and involvement of social players; limited encompassing inclusion of biodiversity issues by other sectors of society; need to expand and train human resources; lack of preventive and proactive measures, causing reactive policies; weakened institutions, which cause the lack of capacity for action; lack of technology and expertise transfer; lack of capacity building on adequate scientific research to support all objectives; lack of knowledge and documentation on the loss of biodiversity and loss of goods and services provided by biodiversity; insufficient information dissemination at the national and international levels; lack of public education and awareness at all levels; lack of financial and human resources; lack of economic incentive measures; lack of synergy at the national and international levels; lack of horizontal cooperation among social actors; lack of effective partnerships; lack of engagement of the scientific community; need to adapt existing policies and legislation; poverty; population pressures; unsustainable production and consumption standards; lack of capacity within local communities; climate change; natural disasters.

Article 8(j) - Traditional knowledge and related provisions GURTS

57. Has your country created and developed capacity-building programmes to involve and enable smallholder farmers, indigenous and local communities, and other relevant stakeholders to effectively participate in decision-making processes related to genetic use restriction technologies?

a) No	X
b) No, but some programmes are under development	
c) Yes, some programmes are in place (please provide details below)	
d) Yes, comprehensive programmes are in place (please provide details below)	

Further comments on capacity-building programmes to involve and enable smallholder farmers, indigenous and local communities and other relevant stakeholders to effectively participate in decision-making processes related to GURTS.

Although Brazil has not developed programs specifically related to GURTS, there are mechanisms in the country which allow the participation of those who detain traditional knowledge in the decision-making processes:

- The **Genetic Heritage Management Council** [**CGEN** – *Conselho de Gestão do Patrimônio Genético*] includes, among its advisors, representatives of the National Indigenous Peoples Foundation [FUNAI – *Fundação Nacional do Índio*], Palmares Cultural Foundation (which support the *quilombola* communities), National Council of Rubber Tappers, Coordination of the Indigenous Organizations of the Brazilian Amazon [COIAB – *Coordenação das Organizações Indígenas da Amazônia Brasileira*], and National Coordination of Black Rural Quilombola Communities [CONAQ – *Coordenação Nacional de Articulação das Comunidades Negras Rurais Quilombolas*]. Additional information at www.mma.gov.br .
- The **National Biodiversity Commission** [**CONABIO** – *Comissão Nacional de Biodiversidade*] includes representatives of the National Confederation of Agriculture Workers [CONTAG - *Confederação Nacional de Trabalhadores na Agricultura*], and of the Coordination of the Indigenous Organizations of the Brazilian Amazon [COIAB – *Coordenação das Organizações Indígenas da Amazônia Brasileira*]. Additional information at www.mma.gov.br .
- The **National Environmental Council** [**CONAMA** – *Conselho Nacional de Meio Ambiente*] includes representatives of the Indigenous Communities, Traditional Peoples, and National Confederation of Agriculture Workers [CONTAG – *Confederação Nacional de Trabalhadores na Agricultura*]. Information at www.mma.gov.br .

Status and Trends

58. Has your country supported indigenous and local communities in undertaking field studies to determine the status, trends and threats related to the knowledge, innovations and practices of indigenous and local communities? (decision VII/16)

a) No	
b) No, but support to relevant studies is being considered	X
c) Yes (please provide information on the studies undertaken)	

Further information on the studies undertaken to determine the status, trends and threats related to the knowledge, innovations and practices of indigenous and local communities, and priority actions identified.

Through the **National Biodiversity Strategy Project**, Brazil supported the elaboration of a synthesis of the traditional knowledge on biodiversity in Brazil, organized by Antônio Carlos Diegues and Rinaldo S. V.

Arruda – Brasília: Ministry of the Environment; São Paulo: USP, 2001. 176p. (Biodiversity 4). The purpose of this work was to conduct the inventory and analysis of all work (books, thesis, articles, reports, collections, etc.) published during the last 20 years on the knowledge and use of biodiversity by traditional peoples in Brazil, and to organize all studied documents in such a way to make them available to the public. Over three thousand titles related to traditional knowledge were researched, in databases and libraries spread over all Brazilian regions. A total of 868 titles were selected (483 concerning non-indigenous populations, and 385 concerning indigenous populations). The authors verified that most titles were published in periodicals. Still, the authors state that the Brazilian journals specialized in this theme are rare. Over 80% of the titles were published during the last two decades, which clearly indicates a growing interest of the researchers and research institutions on the theme. The authors state that this increase is also due to the increase of the “political and social visibility” of these populations. The authors remark that there is geographical heterogeneity in the abundance of work on this theme: most titles (56.7%) refer to Amazonian populations, followed by populations living on the Coastal Zone (20.9%) and Cerrado (18.9%). It is worth noting that from the total of 206 indigenous nations in Brazil, only 106 had their traditional knowledge studied. These data reveal that the studies on traditional knowledge related to biodiversity in Brazil are still incipient. Additional information available at www.mma.gov.br/biodiversidade/doc/saberes.pdf .

Portfolio of Projects Zero Hunger and Sustainable Development in Indigenous Communities: the program is executed by the Ministry of the Environment, and funded by the Ministry of Social Development and Hunger Combat. The following actions are being executed:

- Updating of the Map of Hunger and Map of Environmental Degradation in Indigenous Lands, with the purpose of providing the necessary information for the indication of priority indigenous lands to receive attention from the Indigenous Portfolio, and to become a parameter for the analysis of received projects.
- Inter-ministry coordination for signing a Technical Cooperation Agreement involving the MDS, MDA, FUNASA, FUNAI, EMBRAPA and MEC/FNDE, with the purpose of integrating food safety policies and sustainable development policies for the indigenous peoples.
- Conduction of the first Workshop of the Indigenous Portfolio (03 to 05 June 2004).
- Elaboration and publication of the Operating Directives of the Indigenous Portfolio, and of the Guidelines for project presentation.
- Conduction of Regional Workshops to disseminate information on the Indigenous Portfolio, and to build capacity for the elaboration of projects.

Program Ethnic Identity and Cultural Heritage of Indigenous Peoples. Program of the Federal Government Pluri-annual Plan, with the purpose of ensuring the full use of basic social rights of indigenous peoples, and the preservation of the cultural heritage of the indigenous societies. The program is implemented by the National Health Foundation and by the National Foundation for Indigenous Peoples.

Program for the Protection of Indigenous Lands, Territorial Management and Ethno-development. Program of the Federal Government Pluri-annual Plan, with the purpose of ensuring the integrity of the territorial and environmental heritage of the indigenous societies. The program is implemented by the National Foundation for Indigenous Peoples.

Brazilian Indigenous Peoples Program: project executed by the Socio-environmental Institute [ISA – *Instituto Sócio-Ambiental*], with the following major accomplishments:

- Publication of the series “*Aconteceu – Povos Indígenas no Brasil*” (It happened: Indigenous Peoples in Brazil). This product comprises the most complete existing collection of information on the current status and recent history of the indigenous peoples that live in Brazil, discussing themes such as the indigenous affairs policies; legislation, conflicts, status (legal and actual) of the indigenous lands; health; education; and economic projects. The information, news and analyses combined into nine volumes, encompass the period of 1980 to 2000.
- Indigenous Peoples on the Internet: electronic site containing texts, tables, graphics, maps, lists, photographs and news, allowing access to a reliable, updated and varied assembly of information on the reality of indigenous peoples and their territories. The site includes Portuguese and English directions to navigate through multiple entries and keywords: list of indigenous nations; “how many are they”; “where are they”; languages; rights; lands; indigenous organizations; indigenous peoples support organizations; and “information sources”, with references organized by indigenous people and by document type. <http://www.socioambiental.org/pib/index.html> .
- Encyclopaedia of the Indigenous Peoples in Brazil: This work has the purpose of systematizing the accumulated knowledge on the current native socio-diversity in Brazil. Available at <http://www.socioambiental.org/pib/portugues/quonqua/cadapovo.shtm>, it contains over one hundred entries on each Brazilian indigenous nation, providing information on their habits, myths, rituals, social organization, language, and other cultural, political and economic aspects.

Additional information at <http://www.socioambiental.org/prg/pib.shtm> .

Xingu Program: initiated by ISA in 1995, the program develops a series of projects in partnership with the Xingu Indigenous Land Association [Atix – *Associação Terra Indígena Xingu*], working with communities of the Xingu Indigenous Park [PIX – *Parque Indígena do Xingu*] and the community of the Panará Indigenous Land. The objective is to elaborate and implement, in partnership with the indigenous associations and communities, an articulated group of projects to: increase the interlocution and political protagonist capacity of the indigenous peoples with the surrounding society; increase the economic autonomy of the communities, and the management capacity of their organizations; promote their cultural strengthening; and build capacity for managing the traditional natural resources and to protect and control their borders. The major lines of action are:

- Coordination and development;
- Sustainable management of natural resources and development of economic alternatives;
- Education and culture;
- Capacity building in institutional management and strengthening of the indigenous communities and associations;
- Territorial management and border control;
- Panará project.

The projects developed within this program are:

Capacity Building and Strengthening of the Xingu Indigenous Land Association [Atix - Associação

Terra Indígena Xingu] and **Iakiô Panará Association**: A series of activities are developed to seek the gradual construction of the action autonomy of Atix, Iakiô and other Xingu associations, regarding the technical, management, administrative, legal and political aspects.

Project for the Support and Strengthening of Atix: Seeks to ensure the necessary conditions to allow Atix's autonomous coordination and mobilization of the stakeholders in the Park, in order to develop an agenda of political issues related to PIX management at the three governmental levels (federal, state and municipal); as well as to build its capacity to elaborate and manage projects.

Project for the Management of Natural Resources and Development of Sustainable Economic Alternatives: The objective of this project is to increase the political and management autonomy of the communities of the Xingu Indigenous Park [PIX – *Parque Indígena do Xingu*] and of the Panará Indigenous Land, for the economic and cultural management of the natural resources present in their lands. The project seeks to encourage the maintenance of traditional standards and the cultural recovery, while updating the traditional management practices, considering the new situation of restriction and scarcity of natural resources, which appeared after contact was established with the national society. The project also involves aspects related to subsistence economy, food safety, and the characterization of a participatory management of natural resources. The project seeks to consolidate the sustained production and commercialization of some differentiated products with the aggregation of environmental and cultural value, such as "honey produced by Xingu indigenous peoples", handcrafts, and vegetable oils. All activities include a strong educational component which adds value to traditional knowledge and techniques, through a Program for Training Indigenous Agents in the Management of Natural Resources.

Training of PIX Indigenous Teachers: This project conducts the continuous training of 39 certified teachers and the preparation of 43 teachers of the 14 nations in PIX for Education School. Two Kaiabi teachers of the village of Cururuzinho in the Kaiabi Indigenous Land, and two Panará teachers of the Panará Indigenous Land, both outside the Park, also participate in the project. The project prepares and assists teachers at 40 schools, who teach approximately 1,358 students. Intensive training stages occur every semester, complemented by an educational advisory process of the teachers' work at the schools in each village. The project includes the elaboration of several educational materials in indigenous languages and Portuguese, which constitute a reference to the public policies concerning indigenous education.

Xingu Borders Project: This project has the objective of developing a model for the monitoring, protection and control of the borders and immediate surrounding areas of the Park, to ensure the integrity of its physical limits and natural resources. The activities are conducted in partnership with Atix and with the participation of indigenous communities, receiving support from governmental and non-governmental agencies. The project also coordinates a series of initiatives to support: the consolidation and operation of 11 indigenous control stations; re-opening and cleaning of trails along the borders; conduction of expeditions to verify invasions; training of the chiefs of indigenous control stations; monitoring and mapping of the occupancy vectors of the areas surrounding the Park, and of the deforestation dynamics in the region of the Xingu tributaries; and the political coordination of the Park stakeholders with environmental agencies and local municipal governments.

Panará Project. Initiated in 1991, this project had the objective of restoring the rights of the Panará society, a victim of the impacts caused by the construction of Highway BR-163 during the 1970's, which resulted in the almost extinction of the Panará indigenous nation and the transfer of the 78 remaining people to the Xingu Indigenous Land. During the 1990's, the project developed a series of actions to mobilize public opinion, which resulted in the official recognition of the traditional Panará territory, to which the

Panará people began to return in 1996. Concomitantly, ISA lawyers provided advisory assistance through the project to support the Panará initiative to request legal compensation from the Brazilian government for the losses and damages suffered during the period of contact and transfer to PIX. The Panará were successful at all legal levels, and received the requested compensation in July 2003. The project develops actions to increase the interlocution and political protagonist capacity of the Panará people with the surrounding society; increase their economic autonomy and the management capacity of the Iakiô Association; promote cultural strengthening; train bilingual teachers; discuss the management of traditional natural resources; and to discuss the protection and control of their land.

Additional information at <http://www.socioambiental.org/prg/xng.shtm> .

Rio Negro Program: The socio-environmental diversity of the Rio Negro region – the largest watershed of dark waters in the world – is one of the most important in the Amazon. In Brazil, there are 23 indigenous nations and a mosaic of unique forest formations in this region, which are partially protected by indigenous lands and environmental conservation units. In the medium term, the Rio Negro Program intends to elaborate and create the necessary conditions to implement the regional **program for the sustainable indigenous development in the Medium and High Negro River**, in the north-western portion of the Brazilian Amazon, in partnership with local indigenous associations, other NGOs and governmental institutions. The program is executed in partnership with the Federation of Indigenous Associations of the Negro River [FOIRN – *Federação das Organizações Indígenas do Rio Negro*] and 49 affiliated organizations. ISA maintains a branch office and a permanent team at São Gabriel da Cachoeira, in addition to a network of associated collaborators, and develops the following lines of action:

- Coordination/Development;
- Research, documentation and mapping;
- Sustainable management of natural resources;
- Education and culture;
- Support for the institutional strengthening of FOIRN and affiliated associations, and for the development and perfecting of community projects.

Additional information at <http://www.socioambiental.org/prg/rn.shtm> .

Quilombola Communities Project: In partnership with local associations, the project seeks to support actions and initiatives directed at the economical development, environmental conservation, and life quality improvement of the quilombola communities of the Ribeira Valley. Ivaporunduva is considered to be the oldest community of *quilombo* (village established by escaped slaves) origin in the region. Its territory is located in the municipality of Eldorado, state of São Paulo, and encompasses an area of 3,158.11 hectares. Recently, when it received the title of recognition and domain of its territory, this became the first quilombola community of São Paulo state to obtain the permanent property title to its land, after a 12-year legal battle initiated with the promulgation of the 1988 Federal Constitution. In 2000, the Socio-Environmental Institute [ISA – *Instituto Sócio-Ambiental*] and the Ivaporunduva Quilombo Association established a partnership with the purpose of providing the necessary conditions to conduct studies, and jointly develop alternative methods for the management and sustainable use of the community's natural resources, aiming at an income generation that can be compatible with the local social, economic and environmental conditions, and to ensure the protection and environmental conservation of the quilombola territory. The part-

nership aims at studying and developing income-generating activities that improve and aggregate value to the banana production (main economic activity of the community), such as improving production practices, obtaining organic certification, processing, improvement of the banana straw handcraft activity, and commercialization of products produced by the project. The joint work eliminated the middleman, providing independence and larger profits for the producers. In May 2003, the first phase of the banana organic certification program was completed, and 27 producers received the certification of the Biodynamic Institute [IBD – *Instituto Biodinâmico*], from Botucatu – SP. In addition, the project develops environmental conservation actions, such as planting heart-of palm trees (*Euterpe edulis*) in degraded areas of the quilombola territory, to recuperate and sustainably manage the species in the medium and long term; the selective trash collection and environmental education; and the agro-ecological zoning of the community, to allow the sustainable use of the local natural resources. Additional information at <http://www.socioambiental.org/prg/rib.shtm> .

Recovery of the Ethno-knowledge of the Castro Region: To compensate the lack of information on the customs and reality of traditional communities of the municipality of Castro (Pará state), specifically in the district of Socavão, this project gathered socio-economic and ethno-biological data from seven rural communities (Serra do Apon, São João do Faxinal, Lagoa dos Alves, Pinhal dos Alves, Funil, Bairro dos Luís, and Ribeirão dos Pinheiros), focusing mainly the information on medicinal plants used by popular therapy. The project was executed in two years (2002-2004) by NGO Mater Natura, with support from the State Environmental Fund [FEMA – *Fundo Estadual do Meio Ambiente*] and from the Paraná Environmental Institute [IAP – *Instituto Ambiental do Paraná*]. The project conducted meetings at the local communities, and its major result was the publication of the book “*Ô De Casa – O Saber Popular nas Comunidades Rurais*” (popular knowledge in rural communities), which is disseminating the information collected during project implementation. Additional information at www.maternatura.org.br .

Earth Pharmacy Project: Executed by the Amapá State Scientific and Technological Research Institute [IEPA – *Instituto de Pesquisas Científicas e Tecnológicas*], the project aims at using schools and popular pharmacies to disseminate the knowledge on medicinal plants and home-made medicines for those who have no access to health care. The project possesses 21 units, distributed in schools and drugstores. The participating students come from several municipalities, and remain at the project board school for 15 days per month. During this time, they learn how to work with forest products and to prepare home-made medicines. After the two-week period at school, they return home to spend the next two weeks teaching what they learned to their families and communities. At its base office, IEPA maintains a small phyto-therapeutic pharmacy, composed by products researched and produced in small scale at the Institute, based on popular knowledge. The medicines are sold at cost price. The Institute produces 63 products based on 36 plants, to treat from acne to asthma and diabetes. The purchase is limited to two vials per person, to avoid the creation of an informal market. The Institute also maintains a small business support sector, to support the development of natural products. Information at www.iepa.ap.gov.br .

Program for the Inclusion of Traditional Peoples of Bahia. This is a program of the Secretariat for the Environment and Hydrological Resources of Bahia State, which aims at promoting the full use of civic rights through the inclusion of traditional peoples (indigenous people, quilombolas and riverside communities) into the participatory processes for developing public policies on environmental education in Bahia.

The project seeks to ensure, through their participation, a broader and more contextualized vision of the environmental issues in the state.

The main results obtained by the program are:

- Support and promotion of projects with the purpose of attaining food safety and sustainable development at indigenous communities, focusing on sustainable food production, agro-extraction and handcrafts production.
- Up to December 2004, 64 projects were received by the Indigenous Portfolio. Six of those were approved at the first meeting of the Managing Council in 10 October 2004, and have already received the requested funds. Nine projects were approved at the Managing Council meeting of 28 October 2004, and are currently being processed at UNDP, who will prepare and sign the Agreement Letter between UNDP and the organizations who proposed the approved projects. Seven projects were returned to the proposing organizations, with guidance for proposal improvement due to inaccurate information, lack of consistency with the directives of the Indigenous Portfolio, and absence of minimum sustainability indicators. Thirty-five projects were evaluated by the Managing Council at its meeting of 08 December 2004, and the approved projects are in the process of receiving the requested funds.

Akwé:Kon Guidelines

59. Has your country initiated a legal and institutional review of matters related to cultural, environmental and social impact assessment, with a view to incorporating the Akwé:Kon Guidelines into national legislation, policies, and procedures?	
a) No	X
b) No, but review is under way	
c) Yes, a review undertaken (please provide details on the review)	
Further information on the review.	

60. Has your country used the Akwé:Kon Guidelines in any project proposed to take place on sacred sites and/or land and waters traditionally occupied by indigenous and local communities? (decision VII/16)	
a) No	X
b) No, but a review of the Akwé: Kon guidelines is under way	
c) Yes, to some extent (please provide details below)	
d) Yes, to a significant extent (please provide details below)	
Further information on the projects where the Akwé:Kon Guidelines are applied.	

Capacity Building and Participation of Indigenous and Local Communities

<p>61. Has your country undertaken any measures to enhance and strengthen the capacity of indigenous and local communities to be effectively involved in decision-making related to the use of their traditional knowledge, innovations and practices relevant to the conservation and sustainable use of biodiversity? (decision V/16)</p>	
a) No	
b) No, but some programmes being developed	X
c) Yes, some measures taken (please provide details below)	
d) Yes, comprehensive measures taken (please provide details below)	
<p>Further information on the measures to enhance and strengthen the capacity of indigenous and local communities.</p> <p>Through the Department of Genetic Heritage of the Ministry of the Environment, Brazil has supported and promoted meetings with those possessing Associated Traditional Knowledge, to discuss the mechanisms to conduct the distribution of benefits from the use of Associated Traditional Knowledge which is shared by more than one community or ethnic group. In addition, the elaboration of a Decree to regulate the Administrative Sanctions established by Provisional Measure nº 2186-16/01 also represents an advance towards the protection of Associated Traditional Knowledge.</p> <p>Decree nº 4946, of 31 December 2003: Defines that those research projects that may generate products with economic value will receive authorization to access the Brazilian genetic heritage if they comply with the requirement of obtaining the previous agreement of the indigenous or local community involved, when the project involves the need to access associated traditional knowledge, among other requirements. In addition, those requesting authorization should present a Contract for the Use of Genetic Heritage and Distribution of Benefits signed by all interested parties, when the project involves access to genetic heritage or associated traditional knowledge with potential economic use, such as bio-prospection and technological development activities. Additional information at http://www.planalto.gov.br/ccivil_03/decreto/2003/D4946.htm .</p> <p>Capacity Building Project – Access to Genetic Heritage and Associated Traditional Knowledge. This project is implemented by the Department of Genetic Heritage [DPG/MMA – <i>Departamento do Patrimônio Genético/Ministério do Meio Ambiente</i>], and has the purpose of disseminating information and allowing the better understanding of the national legislation and the CBD, where the access to genetic heritage and to associated traditional knowledge are concerned. All players deserve to receive the necessary information in order to effectively participate, claim and ensure their rights, especially those possessing associated traditional knowledge, indigenous peoples and traditional communities.</p> <p>Brazilian Program for Valuing and Protecting Traditional Knowledge Associated to Biodiversity. The program is developed by the Department of Genetic Heritage [DPG/MMA – <i>Departamento do Patrimônio Genético/Ministério do Meio Ambiente</i>] in partnership with state governments and non-governmental organizations. Its purpose is to directly involve the communities possessing traditional</p>	

knowledge in the implementation of the legislation on access and benefit-sharing (ABS), through the creation of a network for information dissemination and for processing complaints, in which the communities would be the protagonists in the protection of their interests. The program is currently at its final structuring phase, and the planned start date is 2005.

Brazilian Indigenous Institute for Intellectual Property [INBRAPI – *Instituto Indígena Brasileiro para Propriedade Intelectual*]: INBRAPI is a non-profit non-governmental institution. It originated from the Medicine-Men Meeting that occurred in 2001, in São Luís do Maranhão, when the participating stakeholders discussed the creation of an entity to protect Traditional Knowledge from bio-piracy and unauthorized exploitation. In 2002, at the end of the qualifying course for indigenous professionals conducted in Rio de Janeiro, the Indigenous Commission for Intellectual Property [CIPI – *Comissão Indígena da Propriedade Intelectual*] was created. Still in 2002, the participants of the Stakeholders Meeting held in Campo Grande approved a motion to support the creation of the CIPI, and supported the creation of INBRAPI, which effectively happened in February 2003. The objectives of INBRAPI are: to promote the protection of social, collective and diffuse properties and rights concerning the environment and the intellectual heritage of indigenous peoples; to conduct and disseminate research and studies, and organize documentation on intellectual property; to promote interchange with other national and international organizations and entities to train and qualify indigenous professionals aiming at the protection of traditional knowledge; to stimulate the creation of a *sui generis* legislation, proposed by representatives of traditional communities and aiming at the holistic protection of all cultural manifestations and heritage of Brazilian indigenous peoples; and to permanently insert the traditional community in the issues of intellectual property, as a reference to the indigenous peoples in their claims concerning the protection of cultural and intellectual property. The actions conducted by INBRAPI are: organize a documentation and information service; produce, publish, edit, distribute and disseminate books, magazines, videotapes, films, photographs, tapes, records, magnetic or optical records, other materials, exhibits, radio programs, among others; document the INBRAPI several activities by all means, as well as the facts and situations related to the issue of protecting Traditional Knowledge of indigenous peoples; conduct events involving indigenous peoples to disseminate the need of seeking alternatives for the protection of Traditional Knowledge; establish partnerships with governmental, non-governmental, international and multilateral institutions to promote the protection of Traditional Knowledge; create a National Confederation of Indigenous Peoples to unite all existing indigenous peoples associations; establish new Indigenous Community Associations so that they can legally represent the concerns of their community members. Currently, 9 indigenous people associations have partnerships with INBRAPI. Additional information at www.inbrapi.br .

North Network of Intellectual Property, Biodiversity and Traditional Knowledge: the formation of this network in November 2003 had the purpose of protecting intellectual rights over traditional knowledge on biodiversity of the Amazon region. The following institutions signed the bill of intentions of the network: Amazonlink.org; Brazilian Intelligence Agency; Executive Commission of the Cacao Production Plan; Pará University Center; EMBRAPA – PA; Amazon State Research Support Foundation; State Foundation for the Indigenous Affairs Policies of the Amazonas State; Analysis, Research and Technological Innovation Center Foundation; Amazonian Work Group; Amapá State Institute for Scientific and Technological Research; Brazilian Indigenous Institute for Intellectual Property; National Institute for Amazon Research; Amazon Environmental Research Institute; Institute for the Historical Artistic Heritage and Environment; Emílio

Goeldi Museum; Nucleus for the Study and Analysis of Indigenous Intellectual Property; Organization of the Indigenous Peoples of the Içana Watershed; Yawanauá Extractive Organization of Producers of the Gregório River; Amazonas State Secretariat for Science and Technology; Oriental Amazon Regional Superintendence; Pará State University; Federal University of Pará; and Rural Federal University of the Amazon.

Project for Strengthening Social Organization at the Rio Negro Watershed: The project aims at contributing for the consolidation of the Jaú National Park, through the dissemination of knowledge on the area, dissemination of appropriate techniques for using natural resources, and building leadership capacity among the population living inside and around the Park. The main project results are:

- Capacity building of 50 people on community leadership activities through meetings, interchange visits, courses and workshops;
- Support to the creation of the Rio Unini Residents Association [AMORU – *Associação de Moradores do Rio Unini*];
- Production of pamphlets on technical instructions for producing plant fibres;
- Production of pamphlets on the management plan for the Jaú National Park.

Additional Information at www.fva.org.br .

Meri Ore Eda Project. The Meri Ore Eda (Home of the Sons of the Sun) Project aims at promoting the cultural recovery of the Bororo people through the construction of a model traditional village, in a recovery of the rich tradition of this people which is being lost along the last 100 years of intense contact with the surrounding society. The project arose from the will and decision of the Bororo community and the proposal from the Indigenous Traditions Institute [IDETI – *Instituto das Tradições Indígenas*], for the creation of a new model for the relationship between the indigenous people and the national society, in which modern ways and tradition may be united, preserving the richness of cultural diversity of the Brazilian indigenous peoples, while ensuring fair life conditions and equal opportunities. This is a proposal of social inclusion within cultural diversity. The project has as objectives, among others: to value the traditional knowledge of the Bororo elders and generate resources for the community through intellectual property rights; to trade products; and to promote cultural interchange tourism. Additional information at www.ideti.org.br .

Sustainable Economic Development Experience of the Indigenous Peoples: This is an initiative of the Coordination of Brazilian Indigenous Organizations [COIAB – *Coordenação das Organizações Indígenas do Brasil*], with the purpose of developing, coordinating and providing the necessary conditions to execute programs and projects on economic alternatives, based on the socio-cultural, economic and environmental reality of indigenous peoples of the Brazilian Amazon. The project has the following lines of action:

- Research: visit indigenous lands for a preliminary survey and to conduct the inventory of the economic potential, production, and indigenous products.
- Capacity building: organize and train producers, through workshops, seminars, courses and meetings.
- Production: support the production, transportation and sale of indigenous products.
- Dissemination: disseminate the techniques for using and conserving the forest and the indigenous

economy, through product trade, handcraft exhibits, dances, talks, fairs, debates and seminars.

The initiative has the following goals:

- Social: to improve life conditions and strengthen the traditional organization of each indigenous nation.
- Cultural: to value, recover, preserve and disseminate the culture of indigenous peoples.
- Economic: to provide incentives for the economic potential of each region.
- Environmental: to value and strengthen the traditional ways of conserving, managing and using natural resources, and the traditional sustainability techniques of each indigenous nation.

Additional information at www.coiab.com.br.

62. Has your country developed appropriate mechanisms, guidelines, legislation or other initiatives to foster and promote the effective participation of indigenous and local communities in decision making, policy planning and development and implementation of the conservation and sustainable use of biodiversity at international, regional, subregional, national and local levels? (decision V/16)

a) No	
b) No, but relevant mechanisms, guidelines and legislation are under development	X
c) Yes, some mechanisms, guidelines and legislation are in place (please provide details below)	

Further information on the mechanisms, guidelines and legislation developed.

Decree n° 4339, of 22 August 2002, establishes principles and directives for the implementation of the National Biodiversity Policy. It includes the participation of indigenous peoples and other communities in the decision-making processes concerning their interests.

Decree n° 4946, of 31 December 2003: see comments in Question 61.

Capacity Building Project – Access to Genetic Heritage and Associated Traditional Knowledge: see comments in Question 61.

Brazilian Program for Valuing and Protecting Traditional Knowledge Associated to Biodiversity: see comments in Question 61.

Genetic Heritage Management Council (CGEN), National Biodiversity Commission (CONABIO) and National Environmental Council (CONAMA): see comments in Question 57.

National Commission for the Sustainable Development of Traditional Communities.

Management Committee for the Traditional Communities Program. Created by the Ministry of the Environment Administrative Ruling nº 145, of 2000. This committee conducts the following activities: provides support to the management of the project portfolio of this Program; evaluates and suggests strategies for developing the Program; and approves projects. The committee has thus great influence on the Program implementation, being an important forum for the participation of representatives of the local communities. Currently, the committee includes representatives of the following organizations: Amazon Work Group [GTA – *Grupo de Trabalho Amazônico*], National Council of Rubber Tappers [CNS – *Conselho Nacional dos Seringueiros*], National Fishermen Movement [MONAPE – *Movimento Nacional dos Pescadores*], and Babaçu Coconut Breakers Inter-state Movement.

63. Has your country developed mechanisms for promoting the full and effective participation of indigenous and local communities with specific provisions for the full, active and effective participation of women in all elements of the programme of work? (decision V/16, annex)

a) No

X

b) No, but relevant mechanisms are being developed

c) Yes, mechanisms are in place (please provide details below)

Further comments on the mechanisms for promoting the full and effective participation of women of indigenous and local communities in all elements of the programme of work.

Even though the country has not developed national-scale mechanisms, isolated initiatives are conducted to increase participation of women in the decision-making processes.

Women working in the artisanal production in Caroolina: the project is executed by the Northeastern Plants Association [PNE – *Associação Plantas do Nordeste*] since February 2005, and has the planned duration of 2 years. Funding to the project is provided by Petrobrás. The objectives of the project are to:

- Develop the technology and train community women in the process of utilizing the fibre and thread of the *caroá* bromeliad (*Neoglaziovia* sp.) for handcraft production (training, development, design, production, and marketing strategy);
- Consolidate the technology and production process of the pulp and paper made out of *caroá* bromeliads (technological tests, visual identity, participation in fairs, production);
- Consolidate, broaden and structure the production process of phytotherapeutic products and products obtained from plants (plant nursery, training, visual identity, production, and marketing strategy);
- Build the self-management capacity of community women and youth (capacity building, organization).

Additional information at www.plantasdonordeste.org.

4th Meeting of the Midwives, Women Healers and Herb Doctors of the Cerrado: conducted in August 2004, this meeting gathered hundreds of medicine women to exchange experiences and complete the editing process of the Popular Pharmacopoeia of the Cerrado, an unprecedented project among tradi-

tional communities to document and provide legitimacy to their knowledge. The objective of the meeting and of the project is to promote the self-regulation of popular pharmacies which provide service to the population based on traditional medicine, and which are spread all over the cerrado region. The pharmacopoeia will bring detailed information on plant biology, preparation and correct use of the medicines. Another objective of the project is to use the pharmacopoeia as a record of intellectual rights over traditional knowledge, so that researchers or businesses may not appropriate this knowledge for commercial purposes.

Support to implementation

64. Has your country established national, subregional and/or regional indigenous and local community biodiversity advisory committees?

a) No	X
b) No, but relevant work is under way	
c) Yes	

65. Has your country assisted indigenous and local community organizations to hold regional meetings to discuss the outcomes of the decisions of the Conference of the Parties and to prepare for meetings under the Convention?

a) No	X
b) Yes (please provide details about the outcome of meetings)	

Further information on the outcome of regional meetings.

Seminar "Constructing the Brazilian Opinion on the International Regime for Accessing and Distributing Benefits": Organized by the Socio-Environmental Institute [ISA – *Instituto Sócio-Ambiental*], Ministry of the Environment [MMA – *Ministério do Meio Ambiente*], Ministry of Foreign Affairs [MRE – *Ministério das Relações Exteriores*], Palmares Cultural Foundation, and Business Council for Sustainable Development [CEBDS – *Conselho Empresarial para o Desenvolvimento Sustentável*], the event occurred on 09 and 10 November 2004, gathering 80 representatives of the government, NGOs, business entities, social movement, and traditional communities from all over Brazil, in addition to researchers and technicians. According to the participants, the new regime must ensure the requirement of obtaining the expressed authorization from the communities to allow access to the traditional knowledge and genetic resources they preserve – a procedure named "previous well-founded consent". The International Regime should also possess a binding characteristic, i.e., possess mechanisms to compel countries to comply with its principles, and defining sanctions for those who fail to comply. Many representatives of traditional communities consider the warranted property of their territories, including the natural resources they contain, and the protection of their culture, as pre-requisites for the protection of traditional knowledge. The document containing the summary of discussions and the proposals presented at the meeting is available at:

<http://www.socioambiental.org/inst/docs/inst/docs/download/seminario.doc> .

66. Has your country supported, financially and otherwise, indigenous and local communities in formulating their own community development and biodiversity conservation plans that will enable such communities to adopt a culturally appropriate strategic, integrated and phased approach to their development needs in line with community goals and objectives?

- | | |
|--|---|
| a) No | |
| b) Yes, to some extent (please provide details below) | X |
| c) Yes, to a significant extent (please provide details below) | |

Further information on the support provided.

See comments in Question 58.

Box VII.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) There are many projects with the purpose of protecting indigenous peoples, which are conducted by NGOs. Most of these projects aim at integrating the most serious problems of the reality of Brazilian indigenous peoples, which refer to territorial issues, into issues related to biodiversity conservation and protection of traditional knowledge. The government contributes to the protection of traditional knowledge mostly through the Genetic Heritage Management Council (see comments in Question 114), which seeks to create legislation to protect this knowledge, in addition to promoting the elaboration of contracts for distribution of benefits. The program Portfolio of Projects Zero Hunger and Sustainable Development at Indigenous Communities, included in the governmental Pluri-annual Plan, is also an important initiative of the federal government to contribute to the integrated solution of indigenous issues. The federal government is also seeking to increase participation of the indigenous peoples, quilombola communities, and other holders of traditional knowledge, in decision-making processes, through the inclusion of their representatives in diverse representative councils. The growing self-organization capacity of the Brazilian indigenous peoples should also be noted, as well as the creation and demarcation of Indigenous Lands, Quilombo Lands, and Extractive Reserves.
- b) The increased participation of indigenous peoples, quilombola communities, and other hold-

ers of traditional knowledge in decision-making processes through their representatives in representative councils, directly contributes towards achieving Objective 4.3 of the CBD Strategic Plan (indigenous and local communities are effectively involved in implementation and in the processes of the Convention, at national, regional and international levels).

- c) The noted initiatives contribute towards achieving Objective 9 of the CBD 2010 Goals (maintain socio-cultural diversity of indigenous and local communities).
- d) The noted initiatives significantly contribute to the implementation of Component 5 of the National Biodiversity Policy (Access to Genetic Resources and Associated Traditional Knowledge and Distribution of Benefits).
- e) In addition to contributing to Objective 7 of the MDGs (ensure environmental sustainability), the initiatives concerning the protection of traditional knowledge and of those who possess traditional knowledge, mainly contribute in Brazil to achieve Objective 1 of the MDGs (Eradicate extreme poverty and hunger). It is necessary to consider that the main problem faced by Brazilian indigenous people is poverty. Poverty creates the conditions for the indigenous people to conduct activities in such a way that enormous environmental impact is generated and which, however, result in direct economic benefits. Poverty therefore encourages them to abandon traditional practices, which are substituted by predatory practices that generate larger profit in the short term. In time, this process results in the loss of traditional knowledge. Therefore, the most urgent need is to eradicate poverty at indigenous communities. The program Portfolio of Projects Zero Hunger and Sustainable Development at Indigenous Communities is an instrument to eradicate poverty, seeking the integration of sustainable development with the fulfilment of the basic survival needs of indigenous communities. The activities of NGOs should also be noted, since these institutions present strong involvement with indigenous issues in Brazil.
- f) The major obstacle for the implementation of Article 8j in Brazil is the poverty faced by populations holding traditional knowledge, which makes them vulnerable to favouring predatory practices of the western society over their traditional practices. The following difficulties were identified: need for greater political support; limited public participation and involvement of social players; limited encompassing inclusion of biodiversity issues by other civic spheres; lack of preventive and pro-active measures, causing reactive policies; weakened institutions, which cause the lack of capacity for action; need to expand and train human resources; loss of traditional knowledge; lack of capacity on adequate scientific research to support all objectives; lack of knowledge and documentation on the loss of biodiversity and loss of goods and services provided by biodiversity; limited use of scientific and traditional knowledge; insufficient information dissemination at the national and international levels; lack of public education and awareness at all levels; lack of financial and human resources; lack of economic incentive measures; lack of benefit-sharing; lack of synergy at the national and international levels; lack of horizontal cooperation among social players; lack of effective partnerships; lack of engagement of the scientific community; need to adapt existing policies and legislation; poverty; population pressures; unsustainable production and consumption standards; lack of capacity within local communities.

Article 9 - *Ex-situ* conservation

67. On Article 9(a) and (b), has your country adopted measures for the *ex-situ* conservation of components of biological diversity native to your country and originating outside your country?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (please provide details below)	

Further information on the measures adopted for the *ex-situ* conservation of components of biodiversity native to your country and originating outside your country.

Biological Collections Temporary Technical Chamber: created by the National Biodiversity Commission [CONABIO – *Comissão Nacional de Biodiversidade*], at its 8th ordinary meeting.

Thematic Chamber “*Ex Situ* Genetic Heritage – PAGEX”: maintained by the Genetic Heritage Management Council [CGEN – *Conselho Gestor do Patrimônio Genético*], this Chamber gathers advisory members with responsibilities related to the access and shipment of genetic heritage maintained *ex situ*, and includes, when invited, specialists on this theme and social representatives, to propitiate the discussion of technical, political and scientific issues.

Biodiversity Research Program [PPBio – *Programa de Pesquisa em Biodiversidade*], of the Ministry of Science and Technology. Conducts actions related to biological collections. See comments in Question 22.

CONAMA Resolution nº 266, of 03 August 2000. Published by the National Environment Council, this Resolution establishes directives for the creation of botanical gardens and regulates their operation. Additional information at www.mma.gov.br/port/conama/res/res00/res26600.html .

Policy on Collections Maintained at Botanical Gardens. This document describes the commitment established among participating botanical gardens, of broadly and equitably cooperating with public and private organizations of recognized competence, for the conservation and sustainable use of biodiversity, for the benefit of the Brazilian community. Its main objective is to assist the participating botanical institutions in the preparation of institutional policies based on the principles of access to genetic resources and distribution of benefits resulting from their use. The document was elaborated by a work group constituted by representatives of 23 botanical institutions (among which the Rio de Janeiro Botanical Gardens Research Institute) of all continents, under the coordination of the Royal Botanic Gardens, Kew – England. The document “Policy on Collections of the Brazilian Network of Botanical Gardens” [*Política de Coleções da Rede Brasileira de Jardins Botânicos*], based on the principles of the “General Regulating Directives”, represents a conduct guide to establish procedure standards to be adopted by Brazilian botanical gardens, regarding the interchange of genetic resources. The document was elaborated by the Brazilian Network of Botanical Gardens, a non-profit non-governmental organization with the purpose of establishing a connection among Brazilian botanical gardens, to create closer relationships and to support mutual collaboration and knowledge interchange, establishing a base for public education. Information at

Brazilian Network of Botanical Gardens [RBJB – Rede Brasileira de Jardins Botânicos]: Created with the objective of broadening and stimulating the cooperation among botanical gardens and similar institutions which maintain scientific collections of living plants, and among the researchers, technicians and administrators of these institutions. The network also concentrates efforts on the following themes: the study of plant taxonomy to benefit humanity; environmental education at all education levels, including the general public; the study and correct practice of plant introduction; documentation and interchange of information, plants and species of mutual interest among botanical gardens and similar institutions; conservation of rare and/or endangered species; the role of botanical gardens in relation to other institutions, concerning nature conservation and promotion of collaboration for conservation between the Network and other institutions; the interest for cultivating plants with potential or actual economic value; consultation and technical support to the creation of other gardens; connection among botanical gardens and universities, specially those universities developing earth science related activities. The Network currently includes 32 botanical gardens which benefit from the synergy and constant information exchange propitiated by the Network, including some gardens created with the technical support of the RBJB.

During the last few years, the RBJB focused actions on structuring themes of common interest, such as the CONAMA Resolution on the classification of Brazilian botanical gardens; presenting a proposal for the institutionalization of the National Commission of Botanical Gardens, which was accepted by CONAMA and the Ministry of the Environment; and the creation of a support program for similar gardens, within the Rio de Janeiro Botanical Garden Research Institute.

Rio de Janeiro Botanical Garden [JBRJ – Jardim Botânico do Rio de Janeiro]: Its mission is to promote, conduct and disseminate the teaching and technical-scientific research on Brazil plant resources, with the purpose of acquiring knowledge and conserving biodiversity, as well as maintaining the scientific collection under its responsibility. The following actions are conducted: promotion of qualitative and quantitative studies on plant communities of several regions of the country; conduction of biological and technological research on seeds of native, forest, fruit-bearing, ornamental and medicinal plants; development of specific projects to provide information for environmental conservation and management; promotion of species and information interchange with similar national and international institutions. The JBRJ possesses the following collections:

- Herbarium, with approximately 330,000 samples of dehydrated plants;
- Carpotheca with 6,000 dried fruits;
- Xylem collection, with approximately 8,200 wood samples from 160 families and approximately 35,000 laminae obtained from 2,200 individual plants;
- Image collection, containing a collection of plant photographs of historical value, such as type specimens, or plants cited in last century's classical work. It contains 9,000 photographs of type specimens and of historical collections of Brazilian flora, deposited to different herbaria around the world, especially in European countries.
- Library, which is one of the most complete botanical libraries of Latin America with 66,000 titles, these being 13,000 volumes of detached titles, 50,000 journal volumes, in addition to 3,000 rare publications. Additional information at www.jbrj.gov.br .

Among other programs, JBRJ executes the Atlantic Forest Conservation Program, which has the following objectives, among others:

- To establish strategies for the conservation of native plants through botanical gardens;
- To establish institutional and national policies on the access to genetic resources;
- To conserve seeds of tree species of the Atlantic forest and associated vegetation types.

Brazilian Agricultural and Livestock Research Company, Unit of Genetic Resources and Biotechnology [EMBRAPA – CENARGEN – *Empresa Brasileira de Pesquisa Agropecuária, Unidade de Recursos Genéticos e Biotecnologia*]: The CENARGEN conserves germoplasm of important agriculture species. The plant germoplasm is kept *ex situ*, as seeds, in chambers cooled to -20°C, or *in vitro*, at the various conditions required by different tropical and temperate species. To ensure future food production, approximately 72,000 seed samples in cold chambers and 96,000 *in vitro* samples of approximately 400 plant species of socio-economic importance, are kept in the base collection (COLBASE), located in the Center. The Center also develops work on the conservation and characterization of animal genetic resources. Priority has been given to endangered domestic races, including bovine, equine, swine, sheep and goat races. Most of these races, which are called “local races”, have been present in Brazil since colonial times, and through time they have acquired rustic and adaptation characteristics which are important for the development of genetic improvement programs. Additional information at www.cenargen.embrapa.br.

Digitalization of Scientific Collections: The following current initiatives should be noted:

- **National Institute for Health Quality Control [INCQS – *Instituto Nacional de Controle de Qualidade em Saúde*]:** unit of the Oswaldo Cruz Foundation – Fiocruz, which acts as national reference agency for technological and regulatory issues concerning quality control of inflows, products, environment and services connected to Sanitary Control. The Institute maintains the only reference collection in the country, which is recommended by the Brazilian Pharmacopoeia as the collection to be used by the official assays for quality control. The collection is registered in the World Federation of Culture Collection – WFCC (<http://www.wfcc.info/>) under the number INCQS WDCM575, and contains specimens of the Archaea and Bacteria Dominia, in addition to Fungi.
- **René Rachou Research Center:** unit of the Oswaldo Cruz Foundation, with the mission of generating, adapting and transferring scientific and technological knowledge on health, and providing strategic support to the Unified Health System [SUS – *Sistema Único de Saúde*] through integrated research activities, the training of human resources, and by providing services, thus contributing to promote population health. Its structure maintains the following Reference Centers: Laboratory for Triatominae and Epidemiological Research of the Chagas Disease; Center for Collaboration and Research on Schistosomiasis Control; Reference and Training Center on Leishmaniosis; National and International Reference Center on Phlebotomines.

Zoological Gardens. The Brazilian wildlife is protected by Law nº 5197, of 03 January 1967. Law nº 7173, of 14 December 1983, rules on the establishment of zoological gardens. Since the publication of this Law, the responsibility of controlling the activities of zoological gardens was given to the institution that was then the Brazilian Forestry Development Institute [IBDF – *Instituto Brasileiro do Desen-*

volvimento Floresta]. Beginning with the publication of Law n° 7735, of 22 February 1989 and Decree n° 97946, of 11 June 1989, the control of these activities became the responsibility of the Brazilian Institute for the Environment and Renewable Natural Resources [IBAMA – *Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis*]. To regulate the Law on zoological gardens, technicians from IBAMA and from the Brazilian Zoological Gardens Society [SZB – *Sociedade de Zoológicos do Brasil*] elaborated the necessary rules for this activity, and the Administrative Ruling n° 283/P, of 18 May 1989 and Normative Ruling [IN – *Instrução Normativa*] n° 001/89 were published based on these rules, establishing the minimum criteria necessary for a zoological garden to obtain a registration. In 02 March 1990, Administrative Ruling n° 209/90 created the Zoological Gardens Commission with equal representation of each participating entity, which is composed by representatives of IBAMA, SZB, civil society and NGOs, and has the purpose of classifying the zoological gardens within the established categories, and ensuring their legal compliance. There are currently 45 zoological gardens registered by IBAMA. Additional information available at www.ibama.gov.br/fauna/zoologicos.htm and www.szb.org.br .

Wildlife Breeding Facilities: The existence of these breeding facilities is established by Wildlife Protection Law n° 5197/67, Environmental Crimes Law n° 9605/98, and Decree n° 3179/99, which regulated this Law. The legal instruments that regulate the registration and operation of wildlife breeding facilities are the following:

- Conservationist Breeding Facilities: Administrative Ruling n° 139/93. These breeding facilities have the purpose of supporting species conservation activities conducted by IBAMA and other environmental agencies, assisting with the maintenance of wildlife in adequate captive conditions and supporting the development of studies on wildlife biology and reproduction. A breeding facility within this category may not sell or donate the animals with which they are entrusted, only interchange them with other breeding facilities and zoological gardens for reproduction purposes. There are currently 209 conservationist breeding facilities registered by the Brazilian Institute for the Environment and Renewable Natural Resources [IBAMA – *Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis*].
- Scientific Breeding Facilities: Administrative Ruling n° 016/94 regulates the activities of scientific research involving wildlife. Only agencies and institutions officially recognized by the government may obtain this registration, such as universities and research centers. There are currently 143 scientific breeding facilities registered by IBAMA.
- Commercial Breeding Facilities: Administrative Ruling n° 118/97. These facilities breed wildlife with commercial purposes, and both the animal and its products and subproducts may be traded.
- Commercial Breeding Facilities for Alien Wildlife: Administrative Ruling n° 102/98 regulates the breeding of alien animals, i.e., of foreign origin. There are currently 665 commercial breeding facilities (including those breeding alien wildlife) registered by IBAMA.

Additional information at www.ibama.gov.br .

Domestication of camu-camu (*Myrciaria dubia* (H.B.K.) McVaugh) for agro-industrial use in the Amazon: This project is developed within the Pilot Program for the Protection of Brazilian Tropical Forests (PPG7). The research on camu-camu initiated at the National Institute for Amazon Research [INPA – *Instituto Nacional de Pesquisa da Amazônia*], and today has approximately 70 accesses identified at differ-

ent locations of the Amazon region, thus creating the Camu-camu Active Germoplasm Bank [BAGC – *Banco Ativo de Germoplasma de Camu-camu*], and allowing the development of the improvement program for cultivating the camu-camu on non-flooding dryland. The camu-camu has economic and nutritious potential, with a high content of ascorbic acid – approximately 3g/100g of pulp, and exceptionally up to 6g/100g of pulp found in one of the analysed accesses. Since the Amazon Region is the diversity center or center of origin for the camu-camu, there are excellent chances of finding material with higher ascorbic acid content. This fact has aroused the interest of several industrial sectors, involving medicines, cosmetics, natural preserving substances, drinks, ice-cream, juices, jams, wines, etc. There is also interest in the pigmentation of the camu-camu peel (reddish pink) for the potential production of natural dyes (anthocyanines). The project has the objective of evaluating germoplasm from different localities and establishing techniques for managing and cultivating camu-camu on non-flooding dryland for food, dyes and medicinal purposes, thus allowing the exploitation and economic use of wild material, the installation of agro-industries (pulp and vitamin C), and consequently the development of tropical fruit production. http://www.mct.gov.br/prog/ppg7/revista_PPD/Desenv/desen_11.htm

Agriculture Botanical Garden of the São Paulo State Agronomy Institute [IAC – Instituto Agrônomo do Estado de São Paulo]: The actions of this institution are focused on the conduction of research which collaborate with the *in situ* preservation, recuperation of degraded riparian areas and their sustainable use, as well as with the *ex situ* conservation of the genetic heritage under the responsibility of the state government of São Paulo, integrating with society through research on environmental education and teaching agriculture. The foundations of the Botanical Garden are in its phylogenetic resources. The IAC contributes to the *ex situ* conservation by maintaining approximately 80% of the total collections of São Paulo state and 20% of the total collections in Brazil. The entire country currently maintains approximately 200,000 accesses of plant germoplasm, of which 16.5% are maintained in IAC. The IAC herbarium possesses over 43,000 accesses and is officially listed under the code IAC. The institute collaborates with the *in situ* preservation through maintaining the portions of Atlantic Forest, Cerrado, and some hectares of riparian forest, riverside areas subject to periodic floods, and pasture areas of the Santa Eliza farm, located at 22°54'20"S and 47°05'34"W, at the altitude of 694m. <http://www.iac.sp.gov.br/Centros/Cec/JNB/Index.htm> .

The BIOTA/FAPESP program also contributes to conservation with the following initiatives:

Collection, use and characterization of the genetic germoplasm diversity of the sweet potato (*Ipomoea batatas* L. Lam.) and yams (*Dioscorea* spp.) in traditional household swidden plots:

This project maintains germoplasm banks for the *ex situ* conservation of sweet potato and yam varieties, which may serve as a base for genetic improvement programs. Additional information at <http://www.biota.org.br/projeto/index?show+230> .

Monitoring and expansion of the germoplasm bank of Cerrado medicinal plants: Project executed within the BIOTA/FAPESP Program with the objective of establishing an *in vitro* germoplasm bank of the remaining accesses of *Zeyheria montana*, *Anemopaegna arvensis* and *Jacaranda decurrens*, collected at five different locations of São Paulo state. Additional information at <http://www.cerradoinvitro.hpg.com.br>

68. On Article 9(c), has your country adopted measures for the reintroduction of threatened species into their natural habitats under appropriate conditions?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (please provide details below)	

Further comments on the measures for the reintroduction of threatened species into their natural habitats under appropriate conditions.

CETAS Brazil Project: It is IBAMA's institutional duty to implement actions to supervise and control activities involving wildlife, including combating illegal animal trade. The investigation activities and consequent confiscation of animals generate the need of appropriate facilities to receive them. These facilities were named Wildlife Sorting Centers [CETAS – *Centros de Triagem de Animais Silvestres*], and provide treatment and the necessary conditions for the animals' recovery, and defines their destination. The project used the following criteria to define the location for these centers: routes used by illegal animal trade, proximity to universities, and proximity to the decentralized units of IBAMA.

Parallel to this project, a digital system is being developed to provide real-time information on the animals sheltered at CETAS. In addition, the entire legislation that regulates native wildlife is currently under revision.

The CETAS Brazil Project has the objective of emphasizing the need to implement, remodel and expand Wildlife Sorting Centers, in addition to establish partnerships to build CETAS at strategic locations, assisting in combating illegal animal trade and offering adequate facilities and conditions for the recovery, maintenance and destination of these animals.

The implementation of CETAS will allow the creation of environmental education projects, provide opportunities to refine technical knowledge on related issues, and will mostly provide the necessary conditions for the Directorate for Wildlife and Fisheries Resources to implement its main objective: to effectively contribute to the conservation of Brazilian wildlife.

Wildlife Re-introduction: Decree-Law nº 3179/99 regulates Law nº 9605/98 (Environmental Crimes), and states that confiscated wildlife should have the following destination (article 2, paragraph 6):

- a) animals may be released into their natural habitats, after verifying their adaptation to the conditions of living in the wild;
- b) animals may be sent to zoological gardens, environmental foundations or similar entities, as long as they are entrusted to qualified staff; or
- c) if it is impossible to immediately give an animal the destinations defined above, the acting environmental agency may entrust the animal to a trustee in accordance with what is determined in Decree-Law nº 3179/99, until the implementation of the destinations mentioned above.

Researchers have proposed general procedures to qualify and quantify the sanitary conditions of the animals to be translocated/re-introduced, and of the native populations at the release site.

In 2004, IBAMA promoted 2 workshops for the elaboration of criteria to release confiscated animals, when specific protocols for the evaluation of potential candidates for release into the wild were discussed. The discussions involved themes such as behaviour, clinic issues, genetics, and release areas. The major diffi-

culty for establishing correct procedures is the lack of adequate structure for submitting the animals to the necessary clinical, genetic and behavioural examinations, emphasizing the importance of this project in the process of defining the destination of confiscated animals.

Golden Lion Tamarin Re-introduction Program: The re-introduction of captive-born golden lion tamarins initiated in 1984 to increase the wild population size and genetic diversity. In addition, the re-introduction has ensured the protection of remaining Atlantic Forest fragments in private properties of the coastal lowlands of Rio de Janeiro state, increasing the availability of habitat for the species in 30%. Along the 19 years of project, 153 lion tamarins born at zoological institutions throughout the world were released into their natural habitat. Presently, 148 institutions of several countries contribute to the maintenance of the captive population. This captive population was legally donated to IBAMA in 1992, through an agreement signed by all zoological institutions, as a gesture of acknowledgement to the extraordinary success of the initiative.

The re-introduced population has already surpassed 500 golden lion tamarins, only 12 of which are still effectively captive-born animals. All other individuals were born in the wild, to groups formed by re-introduced animals and their offspring, representing approximately 95% of the re-introduced population. The re-introduction program contributed to an increase of over one third of the approximately 1,200 wild golden lion tamarins living in several Atlantic Forest fragments of the coastal lowlands of Rio de Janeiro. This growth is mainly due to the reproduction of individuals located at 27 private properties in the municipalities of Rio Bonito, Silva Jardim and Casimiro de Abreu. Over 660 births were documented among the re-introduced populations along the 19 years of monitoring. The population of re-introduced golden lion tamarins is distributed among 73 family groups, and occupies approximately 4,500 hectares of forest. The average survival rate for individuals born in the wild is currently at 70%, as calculated for all age classes. This rate is mostly explained by the fact that the wild-born animals are becoming self-sufficient sooner than the captive-born re-introduced animals. Additional information at www.micoleao.org.br.

Center for the Re-introduction of Wild Animals [CEREIAS – *Centro de Reintrodução de Animais Selvagens*]: The mission of the Center is to return healthy birds, mammals and reptiles to their natural habitats. The objectives of CEREIAS are to:

- Receive Brazilian wildlife confiscated by appropriate agencies or donated by private owners.
- Provide these wild animals with the adequate treatment conditions, physical space, veterinary care, and appropriate food.
- Propitiate the re-introduction of individuals in protected areas of the states of Espírito Santo, Bahia, Rio de Janeiro and Minas Gerais.
- Develop research programs in collaboration with universities, on the biology of species occurring in the state of Espírito Santo, preventive veterinary care for wildlife, re-introduction methods, and ecology of re-introduced wildlife.
- Establish interchange agreements aiming at eventual animal transfers of animals native from other states or presenting inadequate conditions for re-introduction, to facilities belonging to public or private agencies, zoological gardens, and conservationist breeding facilities officially authorized by IBAMA.

Along the 10 years of activities, until July 2004, over 53,000 animals had already been received by the

Center, being 4.3% reptiles, 91% birds and 4.7% mammals. From this total, the Passeriformes (seedeaters, saffron-finch, saltators, thrushes, among others) arrive in greater numbers, corresponding to 75.1%, followed by Chelonia (tortoises, D'Orbigny's slider turtles and freshwater turtles) with 8.43% and psittacids (parrots, parakeets and conures) with 6.93% of the records. All other Orders, including monkeys, marmosets, caymans, crab-eating foxes and wild cats, among others, contribute with percentages below 1%. A total of 77.8% of the animals received by CEREIAS were released back into the wild, 2.3% were transferred to other facilities and 16.7% died. Additional information at www.cereias.com.br.

Program for the Re-introduction of Marine Manatees: The program follows the directives established by the Group of Re-introduction Specialists of the Species Survival Commission of the World Conservation Union (IUCN). The following are objectives of the program:

- Increase, in the long term, the number of marine manatees along the north-eastern coast of Brazil, and repopulate the areas of historical occurrence. The manatee is the only herbivore species of aquatic mammals.
- Promote conservation campaigns for this species.
- Encourage Observation Tourism of re-introduced manatees generating, in the long term, the socio-economic development of local communities.

Of the 11 re-introduced animals, five are currently being monitored. Five other lost their radio transmitters and, as they present wild behaviour, human closeness and equipment replacement are difficult. This attitude demonstrates the success of the rehabilitation program for re-introduction. One female manatee (named Aparecida), which had been rescued as an adult, died due to predatory fishing activities using explosives, five days after release. An event was conducted from 25 to 27 November 2004 to celebrate the 10th anniversary of the marine manatee re-introduction program. Additional information at http://www.ibama.gov.br/cma/index.php?id_menu=0.

Rock Cavy Re-introduction: This project is conducted in a Private Reserve of the Natural Heritage (Tamanduá Farm, with 900 hectares). The rock cavy (*Kerodon rupestris*, of the Cavidae family) is being bred in captivity for later re-introduction into its natural habitat, to repopulate some areas of historical occurrence. The rock cavy, a small rodent native to rocky areas of the Brazilian semi-arid region, was hunted almost to extinction, both for meat and to use its stomach as a container in the cheese-making process. In 2000, IBAMA certified the Tamanduá Farm as a Conservationist Brazilian Wildlife Breeding Facility. With the collaboration of IBAMA, a biologist and veterinarians, the project is currently elaborating a release protocol to conduct the first re-introduction. Additional information at www.fazendatamandua.com.br.

Klabin Scientific Wildlife Breeding Facility: The Scientific Breeding Facility possesses an IBAMA registration, and is composed by 53 enclosures and aviaries which hold 18 mammal species and 48 bird species, in addition to special enclosures for venomous and non-venomous snakes. The captive-breeding program provides animals for the re-introduction of native species already regionally extinct, such as tapir and rhea. This program is based on research and data collection conducted at the probable release areas. The study of behaviour in captivity aims at meeting the basic food, reproduction and social standard needs of each species, to better adapt them to captivity and to obtain reproductive success. The Breeding

Facility currently prioritizes the breeding of tapirs, maned wolves, oncillas, curassows, and piping guans. Common species at the Monte Alegre Farm such as capybara, peccaries, capuchin monkeys, crab-eating foxes, among others, are used mainly for the Environmental Education Program, rather than for reproduction. Additional information at <http://www.klabin.com.br/go?486> .

Research Institute for Aquaculture and Aquariology [IPAq – Instituto de Pesquisas em Aquicultura e Aquariologia]: The Institute was inaugurated in August 2003, with the purpose of preserving aquatic and coral reef ecosystems. IPAq has the main objective of conducting theoretical and applied research on the maintenance and reproduction of aquatic organisms in semi-enclosed environments. In addition to generating knowledge, IPAq intends to preserve the environment through repopulation and re-introduction activities, as well as through creating public awareness. IPAq currently conducts 4 main projects, contained within the Living Reef environmental preservation project, which includes audit and licensing activities of all the production line of marine ornamental organisms, such as research on captive maintenance and breeding. The main sub-projects of the Living Reef Project are:

- Reef Fishes Project: implementation of a laboratory for breeding reef fishes. The objectives are to develop methodologies to breed reef fishes, from the cultivation of larvae to the fattening stage; collect information on the stock of reef fishes of ornamental interest; study measures to abate fish collection impacts with repopulation or re-introduction.
- Coral Farm Project: implementation of a laboratory for the asexual reproduction of hermatypic and ahermatypic coral species. The objective is to develop methodologies for cultivating coral, since the transplantation of coral bits until the obtention of a medium-size colony. One of the activities planned for this project is the study of coral repopulation and re-introduction.
- Plankton Project: Implementation of a laboratory to cultivate phytoplankton, rotifers and copepods, for larvae cultivation tanks, and for use in fish and coral nutrition studies, as well as for commercialization to aquarium owners and laboratories.
- Living Reef Label Project: implementation of standards for good practices according to the Marine Aquarium Council Standards, which implies conferring the Living Reef/MAC label to collectors, aquaculturers, export businesses and stores interested in becoming affiliated with the program.

Additional information at www.ipag.org.br .

Reforestation with endangered species in Rio Grande do Sul. The project is executed by the State Secretariat for the Environment, and has the objective of reversing the status of several species included in the list of endangered flora of Rio Grande do Sul state. Additional information at www.sema.rs.gov.br .

Program for the collection, storing and re-introduction of epiphyte species in the Carajás and Tapirapé-Aquirí National Forests. Executed by the Vale do Rio Doce Company, this project aims at conducting epiphyte inventories (quantitative and qualitative) to evaluate the potential of the area, the presence of endangered species, and to define the amount of plants/species to be rescued; define the areas to which the collected material will be transplanted; define the collection techniques (before and after vegetation is removed); define planting procedures; and lastly, monitoring the re-introduced plants. The main results already obtained were:

- Rescue and planting of over 100,000 plants since the beginning of the project;

- Creation of three orchidaria, open for public visitation (*ex-situ* conservation);
- Development and perfecting of collection and planting techniques;
- Botanical list of the epiphyte species of the Carajás region (unpublished);
- Enrichment of regenerating areas with epiphyte species from the Brazilian iron ore savannah.

Rio-São Paulo Seed Network of Forest Species. This network is a proposal with the purpose of increasing the availability of seeds from native forest species, in a joint work of public and private institutions. The nucleus promoting this proposal is composed by three state governmental agencies connected to the SMA-SP (Forestry Foundation, São Paulo Forestry Institute and IBt – Botanical Institute), one federal university [UFRRJ – *Universidade Federal Rural do Rio de Janeiro*], one NGO registered by CNEA (Ecoar Institute), and NGOs from Rio de Janeiro and São Paulo, which conduct activities with rural producers and/or involving forest recomposition (IDACO, Flora Tietê and Flora Cantareira). This group is complemented by a participating IBAMA unit, located in Lorena – SP. This network is based on the offer of products, services and information. It also proposes to generate a methodology for working with communities located around Conservation Units, and to elaborate public/private partnership proposals for producing seeds. The area for project implementation was defined as the Atlantic Forest biome and the official priority areas for conservation in the Broadleaf Evergreen Forest Region. To implement the proposal, an activity matrix was structured, in which 5 goals are included, in compliance with the requirements of the public notice: 1) Establishment of Technical Parameters; 2) Establishment of the Rio-São Paulo Seed Network of Forest Species; 3) Capacity building; 4) Evaluation of future demands for the seed sector; and 5) Constitution of the Advisory Board. Additional information at www.sementesriosaopaulo.sp.gov.br.

69. On Article 9(d), has your country taken measures to regulate and manage the collection of biological resources from natural habitats for *ex-situ* conservation purposes so as not to threaten ecosystems and *in-situ* populations of species?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (please provide details below)	

Further information on the measures to regulate and manage the collection of biological resources from natural habitats for *ex-situ* conservation purposes so as not to threaten ecosystems and *in-situ* populations of species.

See comments on Policy for Collections Maintained at Botanical Gardens (question 67).

Box VIII.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) The Rio de Janeiro Botanical Garden, and other botanical gardens, are consolidated institutions, which have historically contributed to *ex-situ* conservation in Brazil. The National Policy on Botanical Gardens reflects the CBD demands, such as the access to genetic resources and distribution of benefits, emphasizing the commitment of these institutions to CBD implementation. EMBRAPA Cenargen has significantly contributed to *ex-situ* conservation through the maintenance of germoplasm banks. The numerous re-introduction initiatives of endangered species, which sometimes obtain the reversion of the endangered status of the species, should also be emphasized.
- b) The initiatives do not directly contribute to the objectives of the CBD Strategic Plan.
- c) The *ex-situ* conservation initiatives contribute to objectives 2 and 3 of the CBD 2010 Goals (promote the conservation of genetic diversity and promote the conservation of species diversity).
- d) The *ex-situ* conservation initiatives directly contribute to the implementation of the fourth directive of Component 2 of the National Biodiversity Policy.
- e) The mentioned initiatives indirectly contribute towards achieving Goal 9 of objective 7 of the MDGs.
- f) Limited public participation and involvement of social players. Lack of integration of biodiversity issues into other sectors, including the use of tools such as environmental impact assessments. Lack of preventive and pro-active measures, causing reactive policies. Inadequate capacity for action, caused by institutional deficiencies. Lack of technology and expertise transfer. Loss of biodiversity, and insufficient understanding and documentation on the goods and services provided by biodiversity. Lack of public education and awareness at all levels. Lack of financial and human resources. Lack of economic incentive measures. Lack of synergy at the national and international levels.

Article 10 - Sustainable use of components of biological diversity

70. On Article 10(a), has your country integrated consideration of the conservation and sustainable use of biological resources into national decision-making?

a) No	
b) No, but steps are being taken	X
c) Yes, in some relevant sectors (please provide details below)	
d) Yes, in most relevant sectors (please provide details below)	

Further information on integrating consideration of conservation and sustainable use of biological resources into national decision-making.

The document containing the **Federal Government development strategy (2003-2006)** states that this strategy is composed by five dimensions: social, economic, regional, environmental and democratic. Concerning the environmental dimension, the document states that:

“Our strategy is one of long-term sustainable development. It therefore implies in an environmental dimension which guides the choices of the social and economic arenas. In face of the pressure imposed by economic development on natural resources and environmental services, the social justice commitments towards the present generations are inseparable from the desired heritage to be left for future generations. The objective is the development which aims at social justice, equally integrating the right to a healthy environment. (...) No less important is to ensure the preservation, recuperation and conservation of natural resources. It is necessary for the economic growth to possess a qualitative approach, being broadly and progressively restructured, along the next years, based on a new production and consumption standard, stimulating the sustainable management of natural resources, as well as rigorously inhibiting those actions which produce ecological disequilibrium. It is essential to value those businesses which demonstrate environmental responsibility, which is a growing requirement from competitiveness, both in the internal and external markets. (...) The preservation and sustainable use of natural resources, particularly of our forests, includes the strengthening of public environmental agencies and the immediate application of laws and control and regulation mechanisms of economic activities. The environmental protection areas represent a present and future investment, for a country holding approximately 20% of the planet’s biodiversity. The promotion of the importance of the cultural diversity of the populations associated to biodiversity is at the same time a social commitment and an opportunity for developing new economies. It is fundamental to stimulate the implementation of intensive projects on the use of Brazilian biodiversity, aiming at the economic and social development of several Brazilian regions, which is an important employment and income generating source for a significant portion of the population.” The Federal Government Pluri-annual Plan is guided by 3 mega-objectives, the second concerning the “growth with work, employment and income generation, environmentally sustainable, and reducing inequalities”. This mega-objective includes a total of 9 objectives, 2 of which make clear reference to the sustainable use of natural resources:

- Providing impulse to the investments in infrastructure in a coordinated and sustainable manner.
- Improve environmental management and quality and promote the conservation and sustainable use of natural resources, with environmental justice.

It can thus be noted that, even though the conservation and sustainable use of biodiversity are not absolute priorities, the insertion of these elements into the political decision-making processes, in several sec-

tors of social organization, is at its initial phase. Additional information on the government strategy is available at http://www.planobrasil.gov.br/texto_base.asp?cod=5 .

Since its creation in 2003, the **Special Secretariat for Aquaculture and Fisheries of the President's Office** [SEAP/PR – *Secretaria Especial de Aqüicultura e Pesca da Presidência da República*] is in the process of instituting Permanent Management Advisory Committees [CPGs – *Comitês Consultivos Permanentes de Gestão*] on fisheries resources. These Committees represent a forum where the Federal Government, the productive sector and the scientific community participate in the elaboration of public policies, and where the management measures for fisheries resources are discussed. With this arrangement, the productive sector and the scientific community can participate in the governmental strategic decisions on fisheries development and planning, as well as contribute to the organization of the diverse fishing activities. The CPGs on Tuna and Tuna-like Fishes and on Demersal Deep Sea Resources are currently operational, ensuring the incorporation of considerations on conservation and sustainable use into SEAP actions. Additional information at <http://www.planalto.gov.br/seap/>

SEAP/PR conducted an encompassing **international compilation of planning and management mechanisms for coastal mariculture**, obtaining information from countries which possess decades of experience developing this activity, in addition to consulting documents on the FAO/UN recommendations, such as "Planning and Management for Sustainable Coastal Aquaculture Development". Based on this gathered information, SEAP elaborated the draft Inter-Ministry Normative Act instituting the Local Mariculture Development Plans [PLDM – *Planos Locais de Desenvolvimento da Maricultura*], which have the purpose of planning the development of this sector using micro-zoning tools at municipal scale or, when applicable, of promoting this planning for bays, coves, coastal lagoons or estuaries.

The **Federal Government Pluri-annual Plan**, referring to the period of 2004-2007, is composed by 374 programs, of which 61 (16%) possess interfaces with the National Biodiversity Policy contributing, in some way, towards achieving CBD objectives. Of these, 24 programs (39%) are under the responsibility of the Ministry of the Environment or its subordinate agencies (Rio de Janeiro Botanical Garden, Brazilian Institute for the Environment, and National Water Agency).

Of the 61 programs related to the National Biodiversity Program, 46 specifically address the objectives related to the Sustainable Use of Biodiversity (which is the theme of the third component of the National Biodiversity Policy), considering that:

- 9 consider the first directive of the component (biotechnology and biosafety management);
- 15 consider the second directive of the component (management of the sustainable use of biological resources); and
- 20 consider the third directive of the component (economic and technological instruments and incentives to the sustainable practices and businesses for biodiversity use).

71. On Article 10(b), has your country adopted measures relating to the use of biological resources that avoid or minimize adverse impacts on biological diversity?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (please provide details below)	

Further information on the measures adopted relating to the use of biological resources that avoid or minimize adverse impacts on biological diversity.

According to the **fisheries legislation** currently in effect, those responsible for national and foreign fishing vessels which operate within the Brazilian fishing areas are required to carry a Brazilian technician or observer on board, who will collect data and information of interest to the national fisheries sector and to the environmental monitoring and control. The fishing vessels are also required to use equipment that allow satellite tracking or monitoring, and to conduct fishing activities in such a way to ensure the sustainable use of living marine resources of the fishing zones. In addition, in cases of fleet limitation, priority will be given to issue fishing permits to those vessels using methods/equipment to reduce accidental killing of birds, turtles and mammals, as well as technology to reduce by-catch. Additional information at <http://www.planalto.gov.br/seap/>.

Sustainable Use Management: Adopted Management Model: The fisheries management model applied by IBAMA is the shared management, which is characterized by the democratic and civic participation, and for seeking decentralization without neglecting the systemic and integrating vision of the use of each resource, as well as the economic, social and environmental particularities of each use or fishing activity, based on scientific knowledge, and without transferring the responsibility for implementing and executing the agreed measures. During 2003-2004, 102 Technical and Ordering Meetings were conducted, and discussion fora were created, resulting in the implementation of 77 Administrative Rulings which organize the continental and marine fishing activities, particularly concerning the species of northern shrimp, sardines, laulao catfish, lobster, and the mangrove crab in the North and Southeast/South regions, and the closed fishing season for spawning in the main hydrographic regions. The main fisheries resources that are targets of the commercial marine, estuarine and lacustrine fishing activities along the Brazilian coast are: sardines; demersal fishes (Argentine croaker, whitemouth croaker, South American striped weakfish, and green weakfish); laulao catfish; southern red snapper; southeast/south mangrove crab; north mangrove crab; pink shrimp, Atlantic seabob shrimp and red shrimp of the southeast/south; north pink shrimp; northeast pink shrimp; and lobster. The sustainable use management of these resources follows this ordering standard, noting that in 2004 only the Sustainable Use Management Committees for Lobster and Sardines were constituted.

Lobster Sustainable Use Management Committee [CGSL – *Comitê de Gestão do Uso Sustentável da Lagosta*]. This was the first fisheries resources management committee created by MMA/IBAMA and was instituted by IBAMA Administrative Ruling nº 83, of 23 September 2004. The CGSL has the purpose of assisting IBAMA in the decision-making process for managing the sustainable use of lobsters (*Panulirus argus* and *P. laevicauda*) along the Brazilian coast. The CGSL is coordinated by the Director for Wildlife and Fisheries Resources – DIFAP/IBAMA, and possesses equal representation of each participating entity.

Permanent Committee for the Management of Deep Sea Demersal Resources: created by MAPA

Normative Ruling nº 2, of 30 January 2002, to assist the Ministry of Agriculture, Livestock and Supply in matters referring to the development and stimulus of fishing activities involving deep-sea demersal fishes and related matters. Responsibilities of the Committee:

- I. To propose policies to support the sustainable development of fishing activities involving deep-sea demersal resources;
- II. To propose and issue opinion on international cooperation treaties and strategies for the conduction of the Brazilian point of view at international meetings on deep-sea fishing and related matters;
- III. To follow the course of development of the execution of sectoral programs;
- IV. To establish Scientific Sub-committees and other supporting instruments to assist the management of demersal resources;
- V. To maintain analysis and information systems on the economic and social conjuncture of deep-sea fishing activities; and
- VI. To propose actions to adequate the offer of deep-sea demersal resources.

Permanent Advisory Committee for the Management of Tuna and Tuna-like Fishes: created by SEAP Normative Ruling nº 04, of 25 May 2004. Its responsibilities include discussing and providing assistance to the Special Secretariat for Aquaculture and Fisheries of the President's Office, on:

- I. the elaboration and implementation of actions or activities related to the development of fishing activities involving tuna and tuna-like fishes, including strategies and instruments for the management of these resources and the constitution of the respective national fleet;
- II. the implementation of Brazilian external policies for the fishing of tuna and tuna-like fishes, including signing international cooperation agreements and the coordination, with the Ministry of External Affairs, for the elaboration of strategies for the conduction of the Brazilian point of view at international fora on the fishing of tuna and tuna-like fishes; and
- III. the recommendations of the Scientific Sub-committee and of the Compliance Sub-committee.

National System for the Prevention and Combat of Forest Fires [PREVFOGO – *Sistema Nacional de Prevenção e Combate aos Incêndios Florestais*]: the objective of the program is to develop, under the coordination of the Brazilian Institute for the Environment and Renewable Natural Resources [IBAMA – *Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis*], activities for the prevention, monitoring and control of rural fires and to combat forest fires in Brazil, evaluating their effects on ecosystems, public health and atmosphere. Additional information available at <http://www.ibama.gov.br/prevfogo>.

Legal Amazon Fire Prevention and Control Program [PROARCO – *Programa de Prevenção e Controle de Queimadas e Incêndios Florestais na Amazônia Legal*]: the objective of this program is to identify the areas under greater risk of forest fire occurrence, through the implementation of a risk monitoring and assessment system, to assist in decision-making processes. The system is based on geoprocessing and meteorological forecast techniques. Additional information available at <http://www.ibama.gov.br/proarco>.

Presidential Decree of 03 July 2003: institutes the Permanent Inter-Ministry Work Group, with the purpose of proposing measures and coordinating actions for reducing the deforestation rates within the Legal Amazon region, through the following instruments:

1. land tenure ordering in the Municipalities within the Deforestation Arc;
2. tax and credit incentives with the purpose of increasing economic efficiency and sustainability of deforested areas;
3. procedures for the implementation of environmentally sustainable infrastructure works;
4. generation of employment and income with activities to restore altered areas;
5. integrated activities of federal agencies responsible for monitoring and inspecting illegal activities within the Deforestation Arc;
6. establishment of a Special Territorial Management Zone at the area of influence of highway BR 163 (Cuiabá – Santarém); and
7. other instruments which the Work Group deems appropriate.

The complete text of this Decree is available at

<http://www6.senado.gov.br/legislacao/ListaTextoIntegral.action?id=224345> .

Action Plan for Deforestation Prevention and Control in the Legal Amazon Region: In face of the need to carefully evaluate the deforestation causes in the region, as the basis for planning a series of governmental integrated actions, which will be implemented with the active participation of Brazilian civil society, the Permanent Inter-Ministry Work Group prepared, in March 2004, a document containing a series of strategic actions, which are considered a priority for deforestation containment in the Legal Amazon, as well as for propitiating alternative strategies for forest protection and sustainable use. This plan includes emergency measures, which should potentially generate effective short- and long-term impacts, but which should be immediately initiated, due to their importance for structuring lasting solutions. The complete text is available at <http://www.presidencia.gov.br/casacivil/desmat.pdf> .

Environmental Licensing. Environmental permits are required for the construction, expansion and operation of ventures and activities which use environmental resources, and which are considered effectively or potentially pollutant, or which can cause environmental degradation. The licensing process has the purpose of obtaining a more harmonic relationship between economic development and environment, minimizing environmental degradation and optimizing venture benefits. The main environmental licensing directives, both at the federal level (IBAMA) and at state level (OEMAs), are stated in Law nº 6938/81 and in CONAMA Resolutions nº 001/86 and nº 237/97.

According to this legislation, IBAMA has the responsibility for licensing activities and work causing significant environmental impact, at the national and regional scale, i.e.:

- Those located or jointly developed in Brazil and a neighbouring country; within the territorial waters; on the continental platform; at the exclusive economic zone; at indigenous lands or in federal conservation units;
- Those located or developed in two or more states;
- Those activities causing direct environmental impact which crosses over national borders or crosses over the border of one or more states;

- Those with the purpose of researching, mining, producing, processing, transporting, storing and disposing of, radioactive material at any stage, or which use nuclear power in any of its forms and applications, with the technical opinion of the National Commission on Nuclear Power – CNEN; and
- Military bases or ventures, when applicable, considering the specific legislation.

Additional information at <http://www.ibama.gov.br/licenciamento/licenciamento.php> .

Sustained Production Plan. This plan consists of the exploitation of planted *Pinus* and *Eucalyptus* forests at Experimental Stations and State Forests under the responsibility of the São Paulo Forestry Institute, using the income generated by the sustained management to fund the restoration and maintenance of the Institute’s Conservation Units. The plan includes cutting trees, extracting resin, and planting trees in plots of 1,000 hectares/year, during 25 years, within the Institute’s 27,424.52 hectares of forest planted with alien species. Expected results:

- Predicted income of R\$13,352,500/Agriculture Year = R\$333,818,500 Total for 25 years.
- Creation of 5,000 direct jobs and 40,000 perennial indirect jobs for 25 years.
- Restoration and maintenance of approximately 800,000 hectares of natural areas of São Paulo state.

72. On Article 10(c), has your country put in place measures that protect and encourage customary use of biological resources that is compatible with conservation or sustainable use requirements?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (please provide details below)	

Further information on the measures that protect and encourage customary use of biological resources that is compatible with conservation or sustainable use requirements.

National Center for the Sustained Development of Traditional Communities [CNPT – Centro Nacional de Desenvolvimento Sustentado das Populações Tradicionais]. The center has the following objectives:

- To promote economic development aiming at the life quality improvement of traditional communities based on sustainability, and on the culture and knowledge they accumulated;
- To create, establish, consolidate, manage and develop the Extractive Reserves in collaboration with the traditional communities that occupy the reserves;
- To advise, elaborate, coordinate, execute, supervise and monitor, the development and implementation of plans, programs and actions presented by traditional communities living in conservation units of direct and indirect use;
- To promote coordination with Federal, State and Municipal Institutions, to obtain political, technical and financial support for the implementation of plans, programs, projects and actions proposed by traditional communities;

- To promote coordination with governmental agencies, non-governmental organizations and Representatives of Traditional Communities, to assist in the definition of policies and in the implementation of plans, programs and projects presented by traditional communities; and
- To establish, in collaboration with the National Environmental Information Center, an information sub-system based on implemented plans, programs, projects and actions, to systematize knowledge and to develop methodologies related to traditional communities issues.

Additional information at <http://www.ibama.gov.br/resex/cnpt.htm> .

Traditional Communities Program. This is a program of the Federal Government Pluri-annual Plan, with the objective of improving life quality at traditional communities, through providing technical and financial assistance to productive ventures and self-organization initiatives associated to environmental management. The Program contributes to ensure access rights to natural resources, the dissemination of practices applying new technologies adapted to add value to forest products, and cooperates to increase community access to credit by supporting their structuring processes and by building capacity among extractive workers, complementing their learning. In addition, the Program contributes to the elaboration of public policies for this sector. The Program operates mainly through a Project Portfolio, which assists traditional community organizations.

The Program possesses the following work programs:

- Social organization and support to traditional communities;
- Creation of Extractive Reserves;
- Studies for the creation of Extractive Reserves and Sustainable Development Reserves;
- Elaboration of contracts for the actual concession of use;
- Creation of boards of directors;
- Providing credit to extractive workers;
- Program for Community Development at Extractive Reserves – program of the National Bank for Economic and Social Development [BNDES – *Banco Nacional de Desenvolvimento Econômico e Social*];
- Amazon Protected Areas Program [ARPA – *Programa Áreas Protegidas da Amazônia*];
- Wildlife Management;
- Forestry Management;
- Ecotourism in Extractive Reserves;
- Health and Sanitation at the Reserve;
- Home and Sanitation;
- Education at the Reserve;
- Energy generation in isolated areas;
- Citizen Project – Traditional community access to civil documentation

The following Extractive Reserves [RESEX – *Reservas Extrativistas*] were created within CNPT [National Center for the Sustained Development of Traditional Communities – *Centro Nacional de Desenvolvimento Sustentado das Populações Tradicionais*]:

Extractive Reserve	City / Municipality	Popula- tion	Families	Area/ ha
Riozinho da Liberdade	Cruzeiro do Sul - AC	1,145	229	325,602
Verde para Sempre - PA	Porto de Mós – PA	20,000	4,000	1,288,717
Riozinho do Anfrizio- PA	Altamira – PA	120	24	736,340
TOTAL		21,265	4,253	2,350,659

Management of Riparian Natural Resources Project [PROVARZEA – *Projeto Manejo dos Recursos Naturais da Várzea*]. This is a project of the Pilot Program for the Protection of Brazilian Tropical Forests – PPG7, executed by IBAMA and coordinated by the Ministry of the Environment with funds from: Rain Forest Trust Fund – RFT of the World Bank, UK Department for International Development – DFID, German Cooperation Agency – GTZ, German Government Reconstruction Bank – KfW, and Brazilian Government. The objective of ProVárzea is to establish scientific, technical and political bases for the conservation and environmentally and socially sustainable management of riparian natural resources, along the central channel of the Amazon watershed, emphasizing fisheries resources. At the end of project implementation, it is intended that project results will influence environmental public policies, in addition to favour the development of sustainable income-producing activities and the improvement of systems related to monitoring and control, in addition to promoting co-management at riparian areas. The project has a planned duration of five years (2000-2005). Project activities initiated in July 2000, and have been implemented in partnership with governmental and non-governmental institutions, and with fisheries and community organizations. Project coordination is based in Manaus (Amazonas state) and at two regional offices in Santarém (Pará) and Parintins (Amazonas), including over 30 staff among coordinators, managers, advisors and technical consultants. The project executes the following sub-projects:

- Community Management of Forest and Fisheries Resources in Riparian Areas of the Gurupá Municipality (PA).
- Conservation of Riparian Natural Resources Through Ecological Tourism and Participatory Management at the Silves Region (AM).
- Center for Capacity Building of Artisanal Fishermen.
- Strengthening of Grassroots Institutions for the Participatory Management of Fisheries Resources.
- Communication and Organizational Strengthening of Users and Institutions Connected with the Management of the Sustainable Use of Riparian Natural Resources.
- Environmental Education and Sustainable Use of Riparian Areas in Indigenous Lands.
- Sustainable Production of Essential Oils of the Silves Riparian Area.
- Alternative Sustainable System for Restoration and Production in Riparian Areas of the Medium Amazonas in the State of Pará (Buffalo Management).
- Integrated Production System.
- Reforestation of Degraded Areas in the Itaquí Region.
- Spawning Migration – Management and Conservation of Fisheries Resources.
- Bees and Pollination of Riparian Plants.
- Management of Riparian Lakes of the Tefé Region.

Research and Development at Amazon Flooded Forests in the Mamirauá Sustainable Development Institute. The project is executed by the Mamirauá Sustainable Development Institute with support from the Ministry of Science and Technology. The project objective is to develop scientific and technological research to generate knowledge on biodiversity, social and environmental monitoring, protected area management for the sustainable use of natural resources, and life quality improvement of traditional communities of the Amazon flooded forests. The main results obtained by the project are in the areas of Scientific Development, Technological Development and Economic Alternatives; Life Quality Improvement; and Biodiversity Protection.

Acaba Vida Project. Executed by the Goiás State Secretariat for the Environment and Hydrological Resources [SEMARH – *Secretaria de Estado do Meio Ambiente e dos Recursos Hídricos*], this project has the purpose of contributing to fixing the Acaba Vida settled families in the rural area, ensuring life quality conditions through the activities of beekeeping of native stingless bees and *babaçu* palm oil extraction. The project thus contributes to the establishment of sustainable alternatives to exploit natural resources. Information at www.semarh.goias.gov.br .

Ethnobotany and ecology of golden grass populations (*Syngonathus sp.*, Eriocaulaceae). The golden grass is a dry ornamental plant that has been used for over 60 years by artisans of the Mumbuca – Mateiros (TO) community, Jalapão region, to produce handcrafts, which have recently become widely known. The possibility of obtaining income from selling this unique handcraft has increased collection pressure on the species. There is still insufficient knowledge on the species biology and ecology, and on the consequences of extractive activities of dry herbaceous ornamental plants, particularly the golden grass. This work has the objectives of: characterizing the stages of collection and handcraft production; conducting population inventories; and implementing experiments to verify collection effects on golden grass population structure. Based on the results of this study, the project intends to identify and propose management methods that contribute to the conservation of this species and its habitat. The project is executed by the Medicinal and Aromatic Plants Nucleus (IBAMA – headquarters) in partnership with Brasília University and Pequi Institute. The main results achieved were:

- Definition of the best period for golden grass collection;
- Collection period established by an Administrative Ruling of the Tocantins state environmental agency.

Natura Project/Sustainable Use of Biodiversity at the Iratapuru State Sustainable Development Reserve (AP). Created by the Natura company in 2001, this project has the objective of extracting Brazil nut oil to be used in the formulation of products, based on the concept of sustainability. Therefore, as basic assumptions, the materials must be removed from nature in an environmentally correct manner, and priority must be given to buy these materials from traditional communities, with which the company must establish economically viable and socially fair relations. The company came to the Iratapuru river community, in Amapá state, through Cognis - one of its raw materials providers. At this community, the company promoted a series of actions, such as the development of a production line for Brazil nut oil; certification of collection areas; creation of a management plan for the species exploited for commercialization; opening of market space for the materials produced by the Iratapuru community; and conduction of a diagnosis for the sustainable development of the region. One of the most important ac-

tions was contracting Imaflora, the Forest Stewardship Council (FSC) representative in Brazil, to certify the collection areas, ensuring that the Brazil nut extraction would not cause negative impacts on the local biodiversity. Natura covered all the costs of the certification process and, in exchange, the community compromised to fulfil the necessary determinations. The intended result was obtained: since the beginning of 2004, the Brazil nut from the Iratapuru community possesses a "green label". Parallel to the certification process, general meetings were organized at the Iratapuru community to discuss the fair price to be paid for the Brazil nut. During these meetings, representatives of the community, Natura and Cognis, defined a price definition strategy.

Project Portfolio Zero Hunger and Sustainable Development at Indigenous Communities. See comments in question 58.

73. On Article 10(d), has your country put in place measures that help local populations develop and implement remedial action in degraded areas where biological diversity has been reduced?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (please provide details below)	

Further information on the measures that help local populations develop and implement remedial action in degraded areas where biodiversity has been reduced.

See comments on PROVARZEA (question 72).

74. Has your country identified indicators and incentive measures for sectors relevant to the conservation and sustainable use of biodiversity? (decision V/24)

a) No	
b) No, but assessment of potential indicators and incentive measures is under way	X
c) Yes, indicators and incentive measures identified (please describe below)	

Further comments on the identification of indicators and incentive measures for sectors relevant to the conservation and sustainable use of biodiversity.

Indicators of Biodiversity in Agro-ecosystems [*Indicadores de Biodiversidade em Agro-ecossistemas*]. The book, edited by Embrapa Environment, has the objective of presenting a methodological proposal for sustainability indicators and to provide a representative selection of sustainability indicators of agro-ecosystems, providing a theoretical and practical approach of the theme. The book is divided into two parts. Part I, with four chapters, covers the most relevant theoretical aspects for understanding sustainability and its indicators. Part II, with nine chapters, contains a series of works which guide data collection, systematization and analysis, with the objective of constructing sustainability indicators. At the end of the book, a database is presented with the purpose of organizing, storing and recov-

ering information concerning sustainability indicators. The book includes the indicators which are most commonly used in the world; units for measuring indicators; references; professionals involved; and institutions which deal with this theme. The chapters present and discuss several aspects of the concept of sustainable agriculture, and the interpretations based on the principles of neoclassical and ecological economies. The complete book reference is: *Indicadores de sustentabilidade em agroecossistemas*. João Fernando Marques, Ladislau Araújo Skorupa, José Maria Gusman Ferraz (editors), 282 pages, 2004. http://www.cnpma.embrapa.br/informativo/mostra_informativo.php3?id=192 .

Sustainable Development Indicators – Brazil 2004 [*Indicadores de Desenvolvimento Sustentável*].

This publication provides continuity to the previous work, initiated in 2002 by the Brazilian Geography and Statistics Institute [IBGE – *Instituto Brasileiro de Geografia e Estatística*], which elaborated a series of indicators to monitor the sustainability of the Brazilian development standard, presented at the environmental, social, economic and institutional dimensions. The current edition includes 59 indicators, among which 12 are new, related to emerging issues, and which propitiate a more complete evaluation of sustainable development. It also presents an indicator matrix, which illustrates the connection among these data; a summary graph, which provides a group view of the indicators; and a list of indicators according to directives for the transition into sustainable development and considering equity, efficiency, adaptability, and attention to future generations. The selected indicators originated from studies and inventories conducted by IBGE and other institutions. They provide, in their environmental dimension, information on the use of natural resources and environmental degradation, organized by the following themes: atmosphere, land, freshwater, sea and coastal areas, biodiversity, and sanitation. In their social dimension, the indicators address the themes: population, work and income, health, education, housing and safety, those connected to the fulfilment of human needs, life quality improvement, and social justice. The economic dimension of the indicators seeks to picture the macro-economic and financial performance and the impacts on the consumption of material resources and energy use, through addressing the themes: economic framework, and production and consumption standards. The institutional dimension is divided into the themes of institutional framework and institutional capacity, providing information on political orientation, capacity, and efforts applied towards conducting the necessary changes to implement sustainable development. Additional information at www.ibge.gov.br .

National Program of Environmental Preservation Reserves. Bill nº 60, of 2003, creates the National Program of Environmental Preservation Reserves, which has the objective of establishing compensation mechanisms and economic incentives to those rural land owners who maintain, in their properties, portions of land destined to environmental preservation. Additional information at http://www3.camara.gov.br/sileg/Prop_Detalhe.asp?id=104467 .

Financial compensation to smallholder farmers who maintain permanent preservation areas with native vegetation cover. Bill nº 4160, of 2004, establishes that funds for this compensation should come from:

- Taxes charged for the use of hydrological resources established by Law nº 9433, of 08 January 1997;
- National Environment Fund [FNMA – *Fundo Nacional do Meio Ambiente*], instituted by Law nº

7797, of 10 July 1989;

- The financial compensation established by article 36 of Law nº 9985 of 2001;
- Resources from the Intervention on the Economy Tax [CIDE – *Contribuição de Intervenção no Domínio Econômico*], instituted by Law nº 10336 of 2001, which are intended for environmental projects, according to what is established by article 4 of Law nº 10636 of 2002;
- Governmental budget resources committed for this destination.

The proposal has the objective of increasing preservation of native vegetation, without however excessively punishing the smallholder farmers, who do not possess the same economic conditions of a large producer, to pay the incurring costs of preservation. Additional information available at http://www.camara.gov.br/sileg/Prop_Detalhe.asp?id=264795 .

Atlantic Forest Incentive Prize to Municipal Initiatives. In August 2002, the SOS Atlantic Forest Foundation launched the Atlantic Forest Incentive Prize to Municipal Initiatives, which is coordinated by ANAMMA – National Association of Municipalities and Environment [*Associação Nacional de Municípios e Meio Ambiente*], the Biosphere Reserve National Council, and by the SOS Atlantic Forest Foundation. The objective is to provide a larger incentive to the municipalities, to fulfil their roles concerning local issues, creating structures for the decentralized environmental management. Additional information at www.sosmataatlantica.org.br .

75. Has your country implemented sustainable use practices, programmes and policies for the sustainable use of biological diversity, especially in pursuit of poverty alleviation? (decision V/24)

a) No	
b) No, but potential practices, programmes and policies are under review	
c) Yes, some policies and programmes are in place (please provide details below)	X
d) Yes, comprehensive policies and programmes are in place (please provide details below)	

Further information on sustainable use programmes and policies.

The **Special Secretariat for Aquaculture and Fisheries of the President's Office**, through Normative Ruling nº 02/2004, has forbidden the national commercialization and export of the Atlantic white marlin (*Tetrapturus albidus*) and the Atlantic blue marlin (*Makaira nigricans*) captured in Brazilian jurisdictional waters or at open sea by Brazilian fishing vessels or foreign vessels rented by Brazilian fisheries businesses or cooperatives, once the fishing limit defined for the 2004 fishing season is reached. Normative Ruling 11/2004 extends this prohibition into the fishing season of the following year.

Project Portfolio Zero Hunger and Sustainable Development at Indigenous Communities. See comments in question 58.

Cultivation Development of Oil-producing and Fibrous Plants. The program is part of the Federal

Government Pluri-annual Plan for the period of 2004-2007, and is executed by the Ministry of Agriculture, Livestock and Supply. The objective is to increase productivity and diversify the production of oil-producing and fibrous plants, by increasing the area cultivated with castor bean, African oil palm, *babaçu* palm, canola, sunflower and cotton, which may be exploited for biomass production for food, chemicals, energizing products, and fertilizers.

Cultivation Development of Cereal, Roots and Other Plant Species. The program is part of the Federal Government Pluri-annual Plan, and has the objective of increasing the production of cereals and forage plants by controlling pests and incorporating new technologies. The institutions responsible for the program are: Brazilian Agricultural and Livestock Research Company, and Ministry of Agriculture, Livestock and Supply.

Sustainable Development of Rural Territories. A program of the Federal Government Pluri-annual Plan, with the purpose of promoting sustainable development planning, implementation and self-management at rural territories, and promoting the strengthening and dynamism of their economy. The program is executed by the Secretariat for Territorial Development, of the Ministry of Agrarian Development.

Sustainable Development in the Agrarian Reform. A program of the Federal Government Pluri-annual Plan, with the objective of providing capacity and means to the settled population, for the management and structuring of the organization and productive processes, aiming at their economic, social, cultural and political insertion, while respecting regional diversity and promoting life quality improvement and citizenship. The program is executed by the National Institute for Colonization and Agrarian Reform [Inkra – *Instituto Nacional de Colonização e Reforma Agrária*].

Program for Promoting the Sustainability of Sub-Regional Areas [PROMESO – *Programa Promoção da Sustentabilidade de Espaços Sub-Regionais*]. A program of the Federal Government Pluri-annual Plan, with the objective of increasing autonomy and sustainability of sub-regional areas through social organization, development of endogenous potential, and strengthening productive bases, aiming at reducing inter- and intra-regional inequalities. The program is executed by the following institutions: Amazon Development Agency; Northeast Development Agency; Ministry of National Integration; and São Francisco and Parnaíba Valleys Development Company.

Non-timber Products Project: Coordinated by the Paulo Feitoza Foundation, this project has the objective to conduct a forestry inventory of non-timber products, to identify the economic potential of the extraction of forest species, specially those used by oil and perfume industries, such as rosewood (*Aniba roseodora*) essential oil, oil from the seeds of tonka bean tree (*Dipteryx odorata*), copaiba (*Copaiba langsdorffii*), crabwood (*Carapa guianensis*), Brazil nut (*Bertholletia excelsa*), and other species such as the bark of Brazilian rosewood (*Aniba canelilla*) and also the buriti palm (*Mauritia flexuosa*), babassu palm (*Orbignya phalerata*), patauá palm (*Oenocarpus bataua*), murumuru palm (*Astrocaryum murumuru*) and assai palm (*Euterpe oleracea*). The intention is to define and build a small processing plant for oil extraction and for processing non-timber products, and build an area for artisanal soap production, to maximize

the use of local materials. The project also plans to train community members on forestry inventory techniques, harvest, processing, commercialization of non-timber forest products, distillation of aromatic oils, and good production practices. The project will allow the rational use of natural resources by the communities, ensuring economic and environmental sustainability. The municipality of Maués holds a population of 40,000 inhabitants, 19,000 of which live in rural areas, working on the cultivation of passion fruit, which is the main local economic activity. Additional information at http://www.fieam.org.br/cin/completa.asp?id_not=138 and www.funbio.org.br .

Pro-Management: This is a project within the Pilot Program for the Protection of Brazilian Tropical Forests (PPG-7), funded by the technical cooperation agency GTZ, the German bank KfW, and the World Bank RTF. Its objectives are:

- To contribute to ensure that the wood products of the region are extracted from production units where reduced impact forest management is applied.
- To generate pilot experiences which contribute to the learning of the diverse segments involved with the forest issue and with the management of conservation units of direct use.

The project includes the following components:

- Strategic analysis and recommendation of public policies;
- Support and promotion of promising initiatives on sustainable forest management;
- Development and testing of a pilot system to control and monitor wood production activities;
- Support to forestry resource management, particularly when conducted by traditional communities, at the Tapajós National Forest.

Additional information at www.mma.gov.br/ppg7 .

State Program of Medicinal and Aromatic Plants with Therapeutic and Food Purposes

[**FITOPLAMA** – *Programa Estadual de Plantas Medicinais e Aromáticas, com fins Terapêuticos e Alimentares*]. This program is executed by the Mato Grosso State Secretariat for Work, Employment and Citizenship, and its main objective is to establish public policies to improve life quality within the state of Mato Grosso through the use of phytotherapeutic products, and medicinal and aromatic plants with therapeutic and nutrition purposes, aiming at social, ethical, bioethical, environmental, cultural and economic sustainability. Additional information at:

<http://www.setec.mt.gov.br/html/internas.php?tabela=paginas&codigoPagina=13> .

Green Tax-Free Zone Program. This program is executed by the Amazonas State Secretariat for the Environment and Sustainable Development. It seeks to improve life quality of the population living in the interior of the state, while protecting the extraordinary natural heritage of Amazonas. The program has the mission of promoting the sustainable development of the state through a system of forest, fisheries, agricultural and livestock production, as well as tourism activities, all based on ecologically healthy, socially just and economically viable bases, associated to the management of conservation units and the promotion of ethno-development in indigenous lands. Additional information at <http://www.sds.am.gov.br/zfv.php> .

Fibrarte Project. This is a long-term multidisciplinary project which, since 1994, has been seeking to transform the artisanal work with plant fibres into an economically and ecologically sustainable activity. Executed by the Vitória Amazônia Foundation and funded by the National Biodiversity Fund [FUNBIO – *Fundo Nacional para a Biodiversidade*], the project initiated its activities at the municipality of Novo Airão, by conducting a census of all artisans of the city. The next step was the creation of the Novo Airão Artisans Association [AANA – *Associação dos Artesãos de Novo Airão*], in 1996. The main fibres used in the production of these handcrafts are: *arumã* (*Ischnosiphon* sp.), *ambé* liana (*Philodendron* sp.), *tucumã* (*Astrocaryum* sp.), piassaba palm (*Leopoldina piassaba*), and *titica* liana (*Heteropsis* sp.). Handcraft commercialization is currently one of the main income sources for the residents of Novo Airão who are involved in the project (30-40% of family income, in some cases 100%). New areas are being mapped for management, and new communities are being approached to socialize the techniques for managing and selling fibres or handcrafts, through courses offered by AANA. A proposal is being discussed to include new product types, crafted from other materials such as ceramics and left-over wood, always considering the adequate management of resources.

Additional information at www.fva.org.br.

Youth of the São Paulo Greenbelt Biosphere Reserve Project. The program includes the following activities:

- Teaching, operating and market support to the Youth Program Network, formed by Eco-professional Education Nuclei of the municipalities of Cotia, Guarulhos, Itapeverica da Serra, Santo André, Santos, São Bernardo do Campo and São Roque, in partnership with the respective municipal governments;
- Technical support to the eco-professional education workshops on Sustainable Agricultural and Forestry Production and Management; Sustainable Tourism; Artisanal Agro-industry; Arts, Consumption and Trash;
- Coordination of Network events: Coordination Meeting, Network Planning, Instructors Meeting, Youth Meetings, Technical Training Week, Eco-Educational Tourism.

76. Has your country developed or explored mechanisms to involve the private sector in initiatives on the sustainable use of biodiversity? (decision V/24)

a) No	
b) No, but mechanisms are under development	
c) Yes, mechanisms are in place (please describe below)	X

Further comments on the development of mechanisms to involve the private sector in initiatives on the sustainable use of biodiversity.

Brazilian Program of Bio-prospection and Sustainable Development of Biodiversity Products [**PROBEM** – *Programa Brasileiro de Bioprospecção e Desenvolvimento Sustentável de Produtos da Biodiversidade*]. Executed by the Secretariat for Sustainable Development of the Ministry of the Environment [MMA – *Ministério do Meio Ambiente*], the program provides incentives to the sustainable economical ex-

exploitation of biodiversity, considering the directives of the Convention on Biological Diversity. The program contributes to the development of the national bio-industry and promotes the insertion of traditional communities into bio-prospection procedures, ensuring the establishment of mechanisms to promote the importance of traditional knowledge associated to genetic heritage, and the just distribution of benefits derived from the economic use of biodiversity. PROBEM initially planned and invested in the construction of the Amazon Biotechnology Center [CBA – *Centro de Biotecnologia da Amazônia*], with the purpose of enabling research and the development of new products. The management model for this center is currently being discussed by the Ministry of the Environment, Ministry of Science and Technology, and Ministry of Industry and Commerce. The program has already invested in the development of production lines for 13 non-timber forest products in the state of Acre; structured the production lines for assai palm and crabwood in the state of Amapá; and conducted a diagnosis of fishing and aquaculture in Amapá. The Kampô Project, a demand to MMA from the Katukina indigenous nation, is currently being elaborated to protect the Katukina traditional knowledge and combat bio-piracy related to the toad vaccine (*kampô*). The project has great potential to build a positive genetic heritage bio-prospection case involving associated traditional knowledge, and ensuring the just distribution of benefits, thus generating directives and information for the elaboration of the Ministry's proposal on this subject. PROBEM also promotes the Bio-prospection Agenda within MMA, with the initial objective of promoting an internal harmonization of concepts and information on this theme, in order to construct, in collaboration with other similar areas of MMA, the basis for elaborating a national bio-prospection policy and to revise the role of the Ministry concerning this theme.

Additional information at www.mma.gov.br .

The **Special Secretariat for Aquaculture and Fisheries of the President's Office** [SEAP/PR – *Secretaria Especial de Aqüicultura e Pesca da Presidência da República*], through its Artisanal Fisheries General Coordination, implemented the technical cooperation and financial support to the National Center for the Sustained Development of Traditional Communities [CNPT/IBAMA – *Centro Nacional de Desenvolvimento Sustentado das Populações Tradicionais*], for the creation of a Conservation Unit of Sustainable Use, under the Extractive Reserve category, with the purpose of organizing and establishing the sustainable use of the fisheries resources exploited by the traditional communities of the coastal zone. Because the Conduct Code to be created is one of voluntary adhesion, and because the aquaculturers will be those most affected by its implementation, it is fundamental to obtain the participation of the productive sector in the elaboration of the Conduct Code. The SEAP/PR conducted an encompassing inventory of Conduct Codes already implemented or in the process of being implemented by other countries, and prepared several draft Conduct Codes, to be refined by the productive sector. Four different Codes were elaborated for 4 types of aquaculture: shrimp, fish, mollusks, and frogs. These preliminary versions will be presented for public appreciation for two months. During this period, all the aquaculture associations or individual aquaculturists with a valid registration may suggest alterations in the preliminary texts. At the end of this period, all suggestions will be listed in a report and the codes will be adjusted according to them. Additional information at <http://www.planalto.gov.br/seap/> .

Sustainable Production Support Program [PAPS – *Programa de Apoio à Produção Sustentável*]. The program is executed by the National Biodiversity Fund [FUNBIO – *Fundo Nacional para a Biodiversidade*], and supports small-scale innovative initiatives, already operational, connected to the sustainable use of

biodiversity, and which represent alternatives to the high environmental impact economic activities, and increase the possibilities of employment and income generation for local populations. By investing in projects which have already received funds from other entities, FUNBIO avoids the interruption of these initiatives, allowing the expansion of the projects' reach. The methodology applied by PAPS (business plan available at <http://www.funbio.org.br/download/estudo3.pdf>) allows the proponent to structure a proposal for financial support which is consistent and adequate to the funding needs, based on the analyses of environmental sustainability, economical viability, management capacity of the implementing institution, and associated market characteristics. These analyses favour the success of the venture. The PAPS specific objectives are:

- Assist the ventures in achieving environmental, social and economic viability;
- Identify market opportunities and support partnerships;
- Provide continuous technical support to ensure the development of local capacity and the qualified management of the venture;
- Act as a resource and effort catalyst for the ventures;
- Open coordination possibilities for the projects with other agents interested in their continuity;
- Facilitate the access to adequate funding sources for producers associations, cooperatives, and micro and small businesses conducting activities connected to the sustainable use of biodiversity;
- Disseminate successful sustainable use ventures.

Additional information at <http://www.funbio.org.br/publique/web/cqi/cqilua.exe/sys/start.htm?sid=31>.

Environmental Petrobrás Program. In October 2003, Petrobrás launched the first public selection of the Environmental Petrobrás Program with the objective of developing and supporting initiatives involving: public awareness building and promotion of the sustainable use of freshwater; contribution for hydrological resource management; restoration of forests around water bodies, including the protection of headwaters; species preservation actions, specially of threatened species; Brazilian social mobilization to promote the importance of habitats and species of the marine fauna and flora. A total of 60 projects were selected, which are still operational, with the predicted end date of 2006.

Incentives to Nature Conservation Program – Support Fund for Eco-development Projects. This fund is maintained since 2001 by the O Boticário Foundation for Nature Protection, in partnership with the Inter-American Foundation (IAF). Its purpose is to support initiatives seeking to harmonize the protection of natural resources with community development around Conservation Units. The goal of this program is to apply resources from the Fund to support initiatives with a positive impact, and which may be replicated at other locations. The Fund currently supports five initiatives in Brazil:

1) This Sea is Mine – Brasil Cidadão Foundation, Icapuí, Ceará state: capacity building of fishermen and Icapuí community members, for the production of handicrafts and cultivation of seaweeds, in addition to preparing a proposal for the creation of a Private Reserve of the Natural Heritage and for the restoration of mangrove areas. The municipal environmental ethics code was created based on the project.

2) Coffee-with-Forest – Ecological Research Institute [IPÉ – *Instituto de Pesquisas Ecológicas*], Teodoro Sampaio, São Paulo state: cultivation of organic coffee, with the objective of promoting the behaviour modification of rural producers and the environmental restoration of the area surrounding the Morro do Diabo State Park. The first coffee productions were already harvested, and an analysis conducted by Em-

brapa confirmed the improvement of soil conditions due to the applied agro-forestry practices.

3) Support to the organization of seed production from native forest species at the extractive settlements of Porto Dias and São Luiz do Remanso – Amazon Workers Center, Rio Branco, Acre state: behaviour modification of affected communities and mapping of the areas to be managed for non-timber species. A total of 41 families, which previously lived exclusively out of rubber extraction and Brazil nut collection, are currently involved in the collection of seeds.

4) Eco-shop Manatee & Co. – Foundation for the Preservation and Study of Aquatic Mammals, Maceió, Alagoas state: the objective of the project is to increase the income of 38 families and to promote the conservation of the marine manatee, through the production of stuffed animals shaped as aquatic mammals.

5) Property and landscape planning – Environmental Preservation Association of the High Itajaí Valley, Atalanta, Santa Catarina state: the project intends to disseminate, from the experience at Atalanta municipality, a property model for small farmers which complies with the Brazilian environmental legislation and with environmental-friendly agricultural and livestock practices, such as organic agriculture and forest enrichment.

Information at <http://www.fundacaoboticario.org.br/site/br/apoio/ecodesenvolvimento.htm> .

Cerrado Fruits Project: executed by Vyty-Cati Association, this project receives support from Funbio [Brazilian Biodiversity Fund – *Fundo Brasileiro para a Biodiversidade*], from the German Technical and Social Cooperation Service, and from the Ministry of the Environment. Project activities are also supported by the Small Projects Program (SPP) of the Global Environment Facility. The project supports the Fruta-Sã factory, a non-profit business of public interest of the CTI [Indigenous Work Center – *Centro de Trabalho Indigenista*], which produces frozen pulp from cerrado fruits. In 2003, 65,300 kg of fruit pulp were produced. All fruits used by this factory are produced by small farmers and, when not produced locally, the fruits are bought from cooperatives of small farmers, with which the factory maintains partnerships. Information source: www.funbio.org.br .

Forest Certification Program [Cerflor – Programa de Certificação Floresta]. Executed by the Brazilian Institute for Meteorology, Normalization and Industrial Quality [Inmetro – *Instituto Brasileiro de Metrologia, Normatização e Qualidade Industrial*], the Cerflor has the following objectives:

- To establish the specific rules for Forest Certification;
- To support the training of forest auditors;
- To disseminate the Forest Certification Program – Cerflor;
- To study possible funding sources to fund the forest certification of properties/businesses;
- To supervise and evaluate Program implementation.

Cerflor includes six rules, of which five were published in February 2002 by the Brazilian Association for Technical Rules [ABNT – *Associação Brasileira de Normas Técnicas*]:

- NBR 14789 – Principles, criteria and indicators for forest plantations
- NBR 14790 – Chain of custody
- NBR 14791 – Directives for forest auditing – General principles
- NBR 14792 – Audit procedures – Forest management audit

- NBR 14793 – Audit procedures – Qualification criteria for forest auditors

In March 2004, ABNT published NBR 15789 – Forest management – Principles, criteria and indicators for native forests. The rules can be acquired at ABNT at the following address: <http://www.abntdigital.com.br/aplicacao/pesquisa/asp> . Additional information at www.inmetro.gov.br .

Forest Stewardship Council (FSC – Brazil). There are currently 40 million hectares of certified forests on the planet and over 20,000 products received the FSC label. Over 300 forest management certificates and over 1,500 chain of custody certificates were already issued. FSC International develops the principles and universal criteria for certification, and also accredits and monitors independent certification bodies. Another FSC function is to support the development of national and regional forest management standards, which are used to detail the application of principles and criteria, adapting them to the reality of each forest type. Both the national and regional standards, and the national organizations, need to be recognized by FSC International to become effective. From 1998 to 2005, 53 businesses were certified by FSC-Brazil. Additional information at www.fsc.org.br .

Certification of non-timber forest products in remaining Atlantic Forest fragments. Executed by the SOS Atlantic Forest Foundation and other environmental entities, the project objective is to create forest certification standards for this biome, ensuring to the consumer the sustainable origin of the products. The forest products from the Atlantic Forest are an expressive portion of the Brazilian economy, and may represent a chance for conserving the last remaining fragments of this biome. The *mate* alone, for example, is cultivated in 160,000 properties in the South of Brazil and its production generates approximately 700,000 jobs (which is equivalent to the amount of jobs generated by the automobile industry today). The piassaba palm is also responsible for the employment of a large number of people, and is considered as an excellent plant to recover degraded areas. The project tested certification standards for the production line of three species and their products: piassaba palm in Ilhéus and adjacent region/BA, heart-of-palm tree in Registro and adjacent region/SP, and mate in Ilópolis and adjacent region/RS, always adapting the standards to the regional and smallholders particularities. Additional information at www.sosmataatlantica.org.br .

Increase of the production and commercialization of serpent venom for serum and pharmaceutical products production. The project has the following objectives:

- To increase the captive population; venom extraction, processing and commercialization.
- To increase venom production, for insertion in the national and international market, providing self-sustainability to the Ophidian Studies Nucleus, based in the Natural Sciences Museum. This would benefit the health sector in the production of anti-hypertension medicines, surgical glues, and analgesics. Information at www.fzb.rs.gov.br .

Project “In Between the Lines” [Nas Entrelinhas]. Executed by the Directorate of Environmental Education – DEA/MMA, Secretariat for Biodiversity and Forests [SBF – *Secretaria de Biodiversidade e Florestas*], Directorate for Biodiversity Conservation [DCBIO – *Diretoria de Conservação da Biodiversidade*], and Forests Directorate [DIFLOR – *Diretoria de Florestas*], the project is currently being structured. Its objective is to stimulate the development of socio-environmental activities by forestry businesses, thus

leveraging learning and socio-environmental protagonist processes, as well as the diversification of production systems, which will contribute to the processes of constructing sustainable societies and will demonstrate the socio-environmental responsibility of Brazilian forestry businesses. Additional information at www.mma.gov.br/educambiental .

Leatherleaf Fern Project. Executed by the NGO Maquiné Headwaters Action, the project has the following objectives:

- Study of the ecology and biology of the species *Rumohra adiantiformis* (leatherleaf fern);
- Conduct the ethno-ecological inventory of the traditional management systems of the region associated to this plant;
- Characterization of the agrarian systems in the region;
- Study of the fern production line;
- Search income generating alternatives to this activity;
- Socio-economic and historical characterization of the extractive workers of Fundos da Solidão.

Results achieved: report on the diagnostic of the leatherleaf fern extraction activity in the northern coast of Rio Grande do Sul state and sustainability assessment; development of economic alternatives for the extraction activity through incentives to handcraft production using dried banana tree leaves; identification of the main directives to obtain the licensing of this activity in the state of Rio Grande do Sul.

77. Has your country initiated a process to apply the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity? (decision VII/12)

a) No	X
b) No, but the principles and guidelines are under review	
c) Yes, a process is being planned	
d) Yes, a process has been initiated (please provide detailed information)	

Further information on the process to apply the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity.

78. Has your country taken any initiative or action to develop and transfer technologies and provide financial resources to assist in the application of the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity? (decision VII/12)

a) No	X
b) No, but relevant programmes are under development	
c) Yes, some technologies developed and transferred and limited financial resources provided (please provide details below)	

- d) Yes, many technologies developed and transferred and significant financial resources provided (please provide details below)

Further comments on the development and transfer of technologies and provision of financial resources to assist in the application of the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity.

Biodiversity and Tourism

79. Has your country established mechanisms to assess, monitor and measure the impact of tourism on biodiversity?

- a) No
 b) No, but mechanisms are under development
 c) Yes, mechanisms are in place (please specify below)
 d) Yes, existing mechanisms are under review

X

Further comments on the establishment of mechanisms to assess, monitor and measure the impact of tourism on biodiversity.

In 2003, the Ministry of Tourism elaborated a National Plan for the sector without, however, making reference to the assessment of tourism impact on Brazilian biodiversity. The same is valid for the Tourism Regionalization Program. The cited documents and other information on the governmental planning for touristic activities in Brazil may be accessed at www.turismo.gov.br. However, some initiatives are being implemented to insert biodiversity issues into the tourism sector:

Geo-referenced Information System for Ecotourism (GIS). The system is currently being planned, and it is the result of an initiative of the Ecological-Economic Zoning Program and of the National Ecotourism Program, of the Secretariat for Sustainable Development of the Ministry of the Environment, in partnership with the Mineral Resources Research Company [CPRM – *Companhia de Pesquisa de Recursos Minerais*]. The SIG implementation has the objective of gathering, geo-referencing and systematizing information on the ecotouristic environmental heritage, specially the protected areas. The data on natural attractions (wildlife, vegetation, relief, etc), palaeontological knowledge, speleological knowledge, archaeological knowledge, monuments, and geological parks, will assist the governmental planning, management and monitoring of ecotouristic activities. The information will also guide the decision-making processes of the private sector and general public on investments in this sector. The coastal region of the Parnaíba Delta and Lençóis Maranhenses National Park was selected as a pilot area for developing this project, since it receives growing attention from the national and international tourism market, according to studies and diagnoses conducted by the Ministry of the Environment. The geo-referenced mapping process is one of the first actions to be developed based on the area diagnosis within the ecological-economic zoning. That study pointed out the limitations, environmental fragilities, and potential for the economic development of the region, emphasizing the ecotourism as a strong demand. The geo-referenced information system also includes the future mapping of the environmental and geological attractions throughout Brazil.

Information

source:

<http://www.funbio.org.br/publicue/web/cqi/cqilua.exe/sys/start.htm?inford=2711&sid=17>.

Bahia Environmental Management System [GEOBAHIA – *Sistema de Gestão Ambiental da Bahia*].

The objective of GEOBAHIA is to develop and implement a Geographic Information System (GIS) to support activities related to environmental management in the state. Activities involve: mapping and integrating factors which compose the physical, biotic and socio-economic environments of the state, into the activities developed by CRA. The following are products and sub-products generated by GEOBAHIA:

- Thematic Maps: Ecologic-Economic Zoning [ZEE – *Zoneamento Ecológico-Econômico*] of the state Environmental Protection Areas, state Conservation Units, water quality, SEMARH Units, among others;
- Environmental Gisweb: software available at the SEIA site, which provides information on the location of geo-referenced points of the ZEE on the Litoral Norte and Joanes-Ipitanga Environmental Protection Areas.

Partnerships with other CRA projects are structuring the development of two systems:

- GIS of the Atlantic Forest Central Ecological Corridor Project [CCMA – *Corredor Central da Mata Atlântica*]
- GIS of the Pojuca River Estuary Monitoring Program [GERCO/PNMA II – *Programa de Monitoramento do Estuário do Rio Pojuca*]

Program for Ecotourism Development in the Atlantic Forest Region, São Paulo (SMA – IDB); and Receptive Tourism (Agreement IDB/SMA/IF/FF).

The objective of these programs is to organize and consolidate the natural attractions of the selected Conservation Units as touristic products, preserving the natural capital in the long-term, as well as to consolidate the sustainable tourism vocation of the area influenced by the Program, as a strategy for conserving nature and increasing its participation in the regional development.

The Program comprises three components:

- Component 1 – Structuring and organization of the selected Parks for public visitation;
- Component 2 – Organization and consolidation of the touristic product in the area influenced by the Program;
- Component 3 – Strengthening of public ecotourism management.

The project is funded with resources from the state government and from the Inter-American Development Bank (IDB). Six State Parks participate in the Program; five are located in the Ribeira Valley (Carlos Botelho, Intervales, PETAR, Jacupiranga, Ilha do Cardoso), and one on the North Coast (Ilhabela). The agreement will have the duration of four years starting from the loan signature, which is planned for 2005.

The São Paulo State Secretariat for the Environment intends to use this Program to significantly advance towards the consolidation of public visitation at Conservation Units. The activities planned for the current year include: elaboration of studies to plan public visitation management; improvement and structuring of several visitor centers at the parks, which will become the main access points to recreation grounds and natural attractions, where visitor services and activities will be concentrated, including small bed-and-breakfast and ecolodge facilities, restaurants and eateries, convenience stores, handcrafts and souvenirs; and activities related to strengthening public ecotourism management.

80. Has your country provided educational and training programmes to the tourism operators so as to increase their awareness of the impacts of tourism on biodiversity and upgrade the technical capacity at the local level to minimize the impacts? (decision V/25)

a) No	
b) No, but programmes are under development	
c) Yes, programmes are in place (please describe below)	X

Further comments on educational and training programmes provided to tourism operators.

National Ecotourism Program. A program of the Federal Government Pluri-annual Plan, with the objective of promoting ecotourism associated to the conservation of environmental goods and services. The program is executed by the Secretariat for Amazon Coordination and by the Secretariat for Sustainable Development Policies, both of the Ministry of the Environment. The activities conducted by the program are:

- To promote, organize and guide the development of ecotourism initiatives at the different biomes, encouraging public and private agents, and the general public, to develop sustainable projects which may positively collaborate to reduce pressure on the national environmental heritage.
- To implement initiatives with the Ministry of Tourism, aiming at the implementation of a specific environmental agenda to organize and support touristic activities, in order to generate sustainable alternatives to social, cultural and environmental negative impacts caused by the development of tourism activities, and creating employment and development opportunities compatible with the conservation of ecosystems and urban space.
- To implement the Ecotourism Geo-referenced Information System: a tool for planning and managing ecotourism activities, which includes the inventory, geo-referencing and systematization of information on the ecotouristic environmental heritage, specially on the areas under federal, state or municipal protection. This tool generates data on economical and socio-environmental sustainability of the areas with ecotourism potential, to assist governments in the planning, management and monitoring of ecotouristic activities in protected areas, as well as to guide the private sector in the decision-making process on investments in the ecological tourism sector.
- To promote the technical and professional training of local communities as ecotourism centers, to integrate these communities into the process of ecotourism management and development, and to promote small sustainable businesses associated with ecotourism.

Ecotourism Development Program for the Legal Amazon Region [PROECOTUR – Programa para o Desenvolvimento do Ecoturismo na Amazônia Legal]. Designed with the purpose of supporting directives for tourism in the Amazon, the PROECOTUR seeks to maximize the economical, social and environmental benefits resulting from this activity. The program intends to generate alternatives for the environmentally harmful activities, create employment, and generate income and opportunities for sustainable businesses. The goal of the program is to provide the necessary conditions for ecotourism development in the Brazilian Amazon Region, establishing the necessary public basic investments to attract private investors. The intention is to establish an adequate structure and implement the necessary conditions, including the re-

quired investments, which will allow the Amazon states to prepare for managing their areas selected for ecotourism, in a responsible and adequate manner, which includes planning, technical assistance and capacity building. PROECOTUR has the following specific objectives: to protect ecotourism attractions; to implement the basic services infrastructure; to create a stable environment; to assess the national and international markets; to propose the regulatory base; to train human resources; to stimulate the use of appropriate technology; to promote the importance of local cultures; and to contribute to biodiversity conservation. PROECOTUR possesses three main components. Component 1 is essentially the preparation of studies for planning ecotourism activities at different levels, as well as studies to create new protected areas and the development of management plans for existing protected areas. Component 2 includes the funding of small, but important, works to improve public infrastructure, especially to better preserve the current natural attractions, improve tourist reception areas, and develop viability studies for future public investment. Component 3 includes training activities to increase public awareness in the Amazon region regarding the conservation of natural resources, and also includes technical consulting services for existing ecotourism businesses, to disseminate proven best management practices.

Additional information at <http://www.mma.gov.br/port/sca/proeco/turverde.html> .

Ecotourism Best Management Practices Program: The Brazilian Biodiversity Fund [FUNBIO – *Fundo Brasileiro para a Biodiversidade*], within its institutional mission of conserving and promoting the sustainable use of biodiversity, contracted a study to analyse and obtain information on ecotourism and specialized tourism concerning the current national policies, funding agencies, available resources, and sector expectations. Through the analysis of the current action and funding proposals for this sector, FUNBIO identified the priority areas for complementary support and, specifically, defined its role in the national ecotourism arena. The study identified **training** as an immediate need, with special attention to remote areas of the country. To support ecotourism projects involving products developed on sustainable environmental, social, economic and cultural bases, FUNBIO decided to develop the program “Ecotourism Best Management Practices” [MPE – *Melhores Práticas para o Ecoturismo*]. The projects targeted by the MPE capacity building program may be managed by traditional communities, associations, cooperatives, small businesses, and NGOs, among others. The training teams will provide training on best management practices to ecotourism ventures. The trainers will train local agents to develop tourism in their regions, while preserving the natural heritage. The program is active at 19 ecotourism centers in Brazil. These are places of rare natural beauty, possessing great touristic attractions, and are therefore vulnerable to the predatory impacts of conventional tourism. They are: CORUMBÁ / Pantanal; MAMIRAUÁ / Amazon; ITACARÉ / Atlantic Forest; UNA / Atlantic Forest; PARNAÍBA DELTA / Northeast; AQUIDAUANA / Pantanal; TRANSPANTANEIRA / Pantanal; ILHA GRANDE / Atlantic Forest; MORRETES / Atlantic Forest; PETAR / Atlantic Forest; ARAGUAIA / Cerrado; CHAPADA DIAMANTINA / Cerrado; PARATY / Atlantic Forest; CIPÓ / Cerrado; FERNANDO DE NORONHA / Oceanic Island; CANOA QUEBRADA / Northeast Coast; BONITO / Cerrado; SÃO FRANCISCO RIVER CANYON / Caatinga; NOBRES / Pantanal.

Additional information at www.mpefunbio.org.br .

II Inter-Ministry Sustainable Tourism Workshop. Conducted on 24 and 28 November 2004 in Aracaju (SE), this event was part of the activities of the Ministry of the Environment (National Ecotourism Program, São Francisco Watershed Revitalization Program, and Caatinga Corridor Program); Ministry of Tourism (Tourism Regionalization Program); and Ministry of National Integration. These Ministries are

coordinating, through the Development Company for the São Francisco and Parnaíba-SE Valleys [Codevasf – *Companhia de Desenvolvimento dos Vales do São Francisco e Parnaíba/Sergipe*], the elaboration of the Sustainable Tourism Program for the Lower São Francisco River by a inter-institutional Work Group. A total of 60 participants attending the workshop discussed the following themes: sustainable architecture and landscaping; alternative power generation and reduction of energy consumption; water collection, treatment, distribution, consumption reduction, and re-utilization; sewage collection, treatment and disposal; solid waste reduction, re-utilization, selective pick-up and recycling; notions of environmental legislation; management of tourism attractions (zoning, restoration, conservation); ecotouristic trails (planning and structuring techniques); carrying capacity and monitoring visitor impact; environmental interpretation and guiding ecotourism group tours; community involvement and promoting the importance of local culture. Additional information at <http://www.funbio.org.br/publique/web/cqi/cqilug.exe/sys/start.htm?inoid=2667&sid=17> .

Sustainable Tourism Certification Program [PCTS – *Programa de Certificação em Turismo Sustentável*]. This program aims at improving quality and competitiveness of micro, small and medium tourism businesses, encouraging their best performance in the economic, environmental, cultural and social areas, thus contributing for the country's sustainable development and for improving country image abroad. PCTS is a national level initiative, led by the Hospitality Institute [IH – *Instituto de Hospitalidade*] in partnership with the Brazilian Sustainable Tourism Council [CBTS – *Conselho Brasileiro de Turismo Sustentável*], with the support of the Inter-American Development Bank (IDB) and Brazilian Export Support Agency [APEX-Brazil – *Agência de Promoção de Exportações*]. Its objectives are:

- To develop the Brazilian Regulatory and Certification System for sustainable tourism;
- To disseminate information on technologies and best sustainable practices, to improve quality, the environment, safety and social responsibility in the tourism sector;
- To train professionals to provide technical assistance to tourism businesses;
- To provide the necessary conditions for the implementation of best sustainable practices at small and medium businesses [PMEs – *Pequenas e Médias Empresas*];
- To promote the participating businesses and the image of the Sustainable Brazil destination at international markets;
- To involve all interested parties in the debate on sustainability of tourism activities.

Additional information at www.pcts.org.br .

Receptive Tourism: Agreement IDB/SMA/IF/FF: see comments in question 79.

81. Does your country provide indigenous and local communities with capacity-building and financial resources to support their participation in tourism policy-making, development planning, product development and management? (decision VII/14)

a) No

X

b) No, but relevant programmes are being considered

c) Yes, some programmes are in place (please provide details below)	
d) Yes, comprehensive programmes are in place (please provide details below)	
Further comments in the capacity-building and financial resources provided to indigenous and local communities to support their participation in tourism policy-making, development planning, product development and management.	

82. Has your country integrated the Guidelines on Biodiversity and Tourism Development in the development or review of national strategies and plans for tourism development, national biodiversity strategies and actions plans, and other related sectoral strategies? (decision VII/14)

a) No, but the guidelines are under review	
b) No, but a plan is under consideration to integrate some principles of the guidelines into relevant strategies	
c) Yes, a few principles of the guidelines are integrated into some sectoral plans and NBSAPs (please specify which principle and sector)	X
d) Yes, many principles of the guidelines are integrated into some sectoral plans and NBSAPs (please specify which principle and sector)	

Further information on the sectors where the principles of the Guidelines on Biodiversity and Tourism Development are integrated.

Decree nº 4339, of 22 August 2002, institutes the principles and directives of the National Biodiversity Policy and defines, in item 12.2.7, that it is necessary to promote instruments to ensure that touristic activities are compatible with biodiversity conservation and sustainable use.

Box IX.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) There is a growing tendency to insert the "biodiversity" theme into sectoral policies, programs and projects of the federal government. The Governmental Strategy includes the environment as one of its five dimensions. The Pluri-annual Plan (2004-2007) presented a larger proportion of programs that comply with objectives of the National Biodiversity Policy than the version for 2000-2003. It should also be emphasized that there is a growing presence of

the business sector in the environmental arena, be it by adapting actions to the conservation and sustainable use of biodiversity, or by supporting and funding projects on these themes.

- b) The increase of the inclusion of biodiversity issues across several sectors contributed towards achieving objective 3 of the CBD Strategic Plan (National biodiversity strategies and action plans and the integration of biodiversity concerns into relevant sectors serve as an effective framework for the implementation of the objectives of the Convention).
- c) The initiatives related to the sustainable use of biodiversity contribute towards achieving objective 4 of the CBD 2010 Goals (Promote sustainable use and consumption).
- d) All the mentioned initiatives contribute towards the implementation of Component 3 of the National Biodiversity Policy (Sustainable Use of Biodiversity Components).
- e) The mentioned initiatives contribute towards achieving the three goals in Objective 7 of the MDGs (ensure environmental sustainability):
 - Integrate the principles of sustainable development into country policies and programmes; reverse loss of environmental resources;
 - Reduce by half the proportion of people without sustainable access to safe drinking water and sewage treatment;
 - Achieve significant improvement in lives of at least 100 million slum dwellers, by 2020.
- f) The predominance of predatory and degrading practices in detriment of those compatible with the conservation of natural resources; encompassing treatment of biodiversity is still insufficient to ensure the protection of Brazilian biodiversity. In the tourism sector, the initiatives related to sustainable tourism have not yet reached the predatory tourism ventures.

Article 11 - Incentive measures

83. Has your country established programmes to identify and adopt economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological diversity?

a) No	
b) No, but relevant programmes are under development	
c) Yes, some programmes are in place (please provide details below)	X
d) Yes, comprehensive programmes are in place (please provide details below)	

Further comments on the programmes to identify and adopt incentives for the conservation and sustainable use of biodiversity.

Brazil is currently at a transition phase, since command and control instruments still prevail, but some initiatives for the implementation of economic instruments can be identified – and there is a clear tendency for their broad adoption. The following documents may be accessed at www.mma.gov.br/port/sds/instrec/corpo.html :

- Employment of economic instruments in environmental management in Latin America and the Caribbean: challenges and conditioning factors (in Spanish);
- Green VAT: Experiences in the States of Paraná, São Paulo, Minas Gerais, and Alternatives in the Amazon Region;
- Economic Instruments in Water Management – Applications in Brazil;
- Economic Instruments for Environmental Management in Brazil;
- Solid Waste Management in Latin America and the Caribbean: Economic Instruments for Public Policies.

However, Brazil has not yet developed the legal structure/framework for the elaboration and implementation of incentive measures with the specific purpose of conserving and promoting the sustainable use of biodiversity. There are localized mechanism initiatives, for example, the green VAT.

Trade and Environment: a positive agenda for sustainable development. Antônio Sérgio Braga and Luiz Camargo de Miranda (Orgs.), Brasília: MMA/SDS, 2002. This document represents the effort of approximately two hundred Latin American and Caribbean specialists to produce an Agenda on the theme “Trade and Environment” for the region, which may assist in the decisions concerning the interface between these two important subjects. The unexpected characteristic of this work is precisely the fact that it was written by many hands, using information from four technical meetings and from the continuous discussions that lasted several months, propitiated by an electronic discussion group on the Web. Thus, this document reflects the opinion of the Latin American and Caribbean intellectual sector, which applied intense efforts to the discussions. To fulfil its objectives, this work was structured in seven chapters, beginning with a theoretical-conceptual approach on the Trade and Environment interfaces, followed by a detailed discussion of the issues related to competitiveness and direct external investments. Next, the text deals with the multilateral negotiations and the multiple debates that they originate. Following the multi-

lateral approach, empirical evidence is presented on the connections between the two subjects, within Latin America and the Caribbean. Finally, based on the resulting analysis, the book concludes with the elaboration of an Agenda for the region.

Additional information at <http://www.mma.gov.br/port/sds/index.cfm> .

PROAMBIENTE [PROENVIRONMENT]: see comments in question 175.

Incentives for the creation of Private Reserves of the Natural Heritage [RPPN – *Reserva Particular do Patrimônio Natural*]: Law nº 9985 of 2000, approved the National System of Conservation Units [SNUC – *Sistema Nacional de Unidades de Conservação*], and granted more strength to the RPPNs, by transforming them into a category of Conservation Unit.

By creating a RPPN, the land owner keeps the property of the land, and becomes entitled to receive support from IBAMA, the Environmental Resources Center [CRA – *Centro de Recursos Ambientais*], the Directorate of Forestry Development [DDF-BA – *Diretoria de Desenvolvimento Florestal - Bahia*], and from non-governmental organizations, for planning the use, maintenance and protection of the reserve. The person who creates a RPPN becomes exempt from paying the ITR (rural property tax) referring to the portion of the property declared as a protected area, and may present project proposals supported by NGOs to the National Environment Fund, to fund the maintenance of the reserve. This person is also given priority in the concession of agricultural credit.

Another advantage of creating a RPPN is that the protected area may not be expropriated for social purposes, since it already fulfils its social role by protecting the environment. In addition, the National Network of Private Protected Areas develops projects and actions to obtain new and greater benefits for RPPNs and their owners.

Ecological Approach and Economic Instruments for Establishing the Discovery Corridor: A Strategy to Reverse Atlantic Forest Fragmentation in the South of Bahia. The project has the objective of investigating biological and economic mechanisms to ensure the conservation of larger extensions of natural and modified landscapes of the Atlantic Forest in the south of Bahia, with the possible formation of ecological corridors. This strategy seeks to change the paradigm of “biological islands” into “ecological corridors”. These corridors may be described as networks composed by groups of conservation units under different management categories, including remaining forest fragments in private properties, distributed through areas representative of different flora and fauna communities of the Atlantic Forest ecosystems. The project general objectives are to identify: proximate causes of the accelerated fragmentation process; spatial configuration of remaining forest fragments; specific goals for the formation of the Central Corridor, based on biological parameters, particularly on its aspects of geographic representativeness and ecological viability; possible and necessary economic instruments and public policies for Corridor implementation; generation of alternative scenarios, based on ecological goals and available governmental instruments for implementation at Bahia state; generation of a methodology that may be applied at other regions of the country, aiming at the management of large extensions of landscape for the conservation of biodiversity. The project is coordinated by the Socio-Environmental Studies Institute of the South of Bahia [IESB – *Instituto de Estudos Sócio-Ambientais do Sul da Bahia*], in partnership with the Center for Applied Biodiversity Science/Conservation International – Brazil (CI), Minas Gerais Federal Uni-

versity [UFMG – *Universidade Federal de Minas Gerais*], Bahia State Department of Forestry Development [DDF – *Departamento de Desenvolvimento Florestal*], Environmental Studies and Research Nucleus at Unicamp [NEPAM – *Núcleo de Estudos e Pesquisas Ambientais*], and the World Bank. Funding is provided by PROBIO/MMA.

Additional information at <http://www.iesb.org.br/areas/biodiversidade/probio.htm> .

The National Program for Financing the Increase and Modernization of the Fishing Fleet (Profrota Pesqueira Program), created by Law nº 10849, of 23 March 2004, has the objective of promoting the renewal, conversion, modernization, recuperation and increase of the fleet of fishing vessels. Access to credit will be guided by the rules established by an Environmental Technical Handbook, jointly elaborated by the fisheries support agency (SEAP/PR), environmental agency (IBAMA/MMA) and maritime authority (Brazilian Navy). This Handbook defines the size and characteristics of the vessels and equipment to be financed, respecting the principles of sustainable use of fisheries resources and reduction of fishing-related impacts on aquatic biodiversity. Additional information at <http://www.planalto.gov.br/seap> .

Project on “Compensation for Environmental Services: instruments of social and ecological capital protection”. Executed by the Vitae Civilis – Institute for the Development, Environment and Peace, the project conducts the following activities:

- Participatory research to identify how rural and traditional communities perceive instruments and monetary and non-monetary ways of compensating those social agents who protect environmental services and biodiversity;
- Four case studies: three in the Amazon and one in the Atlantic Forest;
- Conduction of seminars and publishing of books concerning research results.

The main results obtained by the project were:

- Proposals from NGOs, rural and traditional communities on conditions for applying compensation instruments for environmental services;
- Book published in 2002 by Vitae Civilis: *Protecting Social and Ecological Capital through compensation for environmental services* – ISBN 85-85663-85-5;
- Protection of the Social and Ecological Capital through compensation for environmental services.

Additional information at www.vitaecivilis.org.br .

National Program to Support Ecologically-Based Agriculture at Family Production Units. This program was instituted within PRONAF, by the Secretariat for Family Agriculture of the Ministry of Agrarian Development, in partnership with other agencies of the Federal Government. The program has the objective of strengthening the existing initiatives and stimulating the transition from conventional agriculture into sustainable cultivation models, with the adoption of mechanisms to support technical assistance and rural extension, training of family producers and by making a rural credit line available for agro-ecological production projects, stimulating the adequate management of natural resources, and improving income and life quality of family producers.

84. Has your country developed the mechanisms or approaches to ensure adequate incorporation of both market and non-market values of biological diversity into relevant plans, policies and programmes and other relevant areas? (decisions III/18 and IV/10)

a) No	X
b) No, but relevant mechanisms are under development	
c) Yes, mechanisms are in place (please provide details below)	
d) Yes, review of impact of mechanisms available (please provide details below)	

Further comments on the mechanism or approaches to incorporate market and non-market values of biodiversity into relevant plans, policies and programmes.

Brazil is currently conducting studies (see comments in question 83) on biodiversity valuation, and on the incorporation of its value into national plans, policies and programs.

85. Has your country developed training and capacity-building programmes to implement incentive measures and promote private-sector initiatives? (decision III/18)

a) No	
b) No, but relevant programmes are under development	
c) Yes, some programmes are in place	X
d) Yes, many programmes are in place	

86. Does your country take into consideration the proposals for the design and implementation of incentive measures as contained in Annex I to decision VI/15 when designing and implementing incentive measures for the conservation and sustainable use of biodiversity? (decision VI/15)

a) No	X
b) Yes (please provide details below)	

Further information on the proposals considered when designing and implementing the incentive measures for the conservation and sustainable use of biodiversity.

87. Has your country made any progress in removing or mitigating policies or practices that generate perverse incentives for the conservation and sustainable use of biological diversity? (decision VII/18)

a) No	
b) No, but identification of such policies and practices is under way	

c) Yes, relevant policies and practices identified but not entirely removed or mitigated (please provide details below)	X
d) Yes, relevant policies and practices identified and removed or mitigated (please provide details below)	
Further information on perverse incentives identified and/or removed or mitigated.	

Box X.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) The conduction of valuation studies is fundamental to adequately insert biodiversity into market systems. Mechanisms may be created based on these studies. The green VAT, main incentive related to biodiversity conservation in Brazil, significantly contributes to expanding protected areas. Water management in Brazil is at a more advanced phase, presenting already implemented incentive measures. Considering that water preservation contributes to biodiversity conservation, this sector presents important initiatives.
- b) The mentioned initiatives do not directly contribute towards achieving the objectives of the CBD Strategic Plan.
- c) The mentioned initiatives do not directly contribute towards achieving the CBD 2010 Goals.
- d) The mentioned initiatives do not directly contribute towards achieving the MDGs.
- e) Predominance of command and control instruments; lack of knowledge on biodiversity to allow the incorporation of environmental services into the economic system.
- f) Lack of encompassing integration of biodiversity concerns into other sectors, including the use of tools such as the environmental impact assessment. Lack of preventive and pro-active measures, causing reactive policies. Lack of financial and human resources. Lack of economic incentive measures. Lack of synergy at the national and international levels. Lack of effective partnerships.

Article 12 - Research and training

88. On Article 12(a), has your country established programmes for scientific and technical education and training in measures for the identification, conservation and sustainable use of biological diversity and its components?

- a) No
- b) No, but programmes are under development
- c) Yes, programmes are in place (please provide details below)

X

Further information on the programmes for scientific and technical education and training in the measures for identification, conservation and sustainable use of biodiversity.

The **Higher Education Authority [CAPES – Coordenação de Aperfeiçoamento de Pessoal de Nível Superior]**, through its Post-Graduation Support Program, grants Master and PhD level scholarships to the Brazilian post-graduation programs. The table below presents the number of scholarships granted during the period of January-December 2003, for study areas related to biodiversity.

Month/Year	PhD					Master Degree				
	E & E	Bio	Agr	Multid	Total	E & E	Bio	Agr	Multid	Total
Average	129	205	263	43	640	253	331	495	73	1152
Percentage of total scholarships	12.12	19.19	24.61	4.02	59.94	10.24	13.37	20.01	2.94	46.56

Caption - E&E: Exact and Earth Sciences; Bio: Biological Sciences; Multid: Multidisciplinary; Agr: Agrarian Sciences.

Source: http://www.capes.gov.br/serviços/indicadores_e_estatísticas/boletim_estatístico/bolsas_no_pais/Mensalidades

The **National Research Council [CNPq – Conselho Nacional de Pesquisas]**. The biodiversity research projects supported by CNPq are related to several articles of the CBD, especially to those concerning research and training.

During 2003 and 2004, CNPq assistance to Basic Programs and other programs, supporting biodiversity-related projects, reached approximately R\$ 49,552,000 (see Table 1 below).

Program	Grants and Scholarships (R\$)	
	2003	2004
• Basic Botany Program	5,116,224.00	5,553,636.78
• Basic Ecology and Limnology Program	6,912,463.00	8,752,942.21
• Basic Program of Oceanography, Fisheries Resources and Fisheries Engineering	3,765,133.00	4,463,680.69
• Basic Program of Zoology and Fisheries Resources of Continental Waters	44,826,701.00	7,948,474.39
Sub-total of Basic Programs	20,620,521.00	26,720,738.07

<ul style="list-style-type: none"> Program for Assessing the Sustainable Potential of Living Resources in the Exclusive Economic Zone 	765,722.00	246,831.16
<ul style="list-style-type: none"> Conservation and Sustainable Use of Brazilian Biological Diversity - PROBIO 	326,082.90	436,151.97
Subtotal (Basic Programs, Revizee, Probio)	21,712,325.90	27,839,873.17
Total (2003 and 2004)	49,552,199.07	

Table 1. Estimated total paid by CNPq to grants and scholarships (of all types) in 2003 and 2004, to projects related to Biodiversity.

FINEP. The Financing Agency for Research and Projects [FINEP – *Financiadora de Estudos e Projetos*] is a public company connected to the Ministry of Science and Technology [MCT – *Ministério da Ciência e Tecnologia*]. It supports the following projects related to biodiversity:

- Oceanlab: this is the deepest oceanic tank in the world for simulating oil exploitation, in addition to being the largest in South America. Inaugurated in April 2003, the project cost R\$ 16 millions, of which 94% were covered by FINEP, with resources from CT-Petro. Today, Brazil is the global leader in deep-sea oil exploitation.
- Embrapa: Agribusiness is the most important item in the Brazilian export portfolio. FINEP financed not only the development of Embrapa, but also many of its projects. One of these projects alone, concerning the substitution of fertilizers for soybean cultivation, generated savings of over US\$ 1 billion per year.
- Vaccine against *Boophilus microplus*. The *Boophilus microplus* tick is considered one of the major sanitary problems in the animal protein production sector, causing direct and indirect losses to the country of US\$ 1 billion per year. FINEP raised funds for research on the development of a vaccine against this parasite. In 2003, tests were conducted which proved the efficiency of the vaccine, and a public bidding was published for the pre-qualification of businesses interested in producing the vaccine.
- Aviculture. The Brazilian aviculture is today among the most competitive ones, and the final product is rated at an accessible price to the low-income population, all this due to the support provided by FINEP to 12 projects on genetics, nutrition, and bird health, during the period of 1984-1990. This sector presented such an extraordinary advance that today the birds combine the genetic qualities of the best egg layers with the sturdiness of the traditional non-selected chicken breed.
- First Brazilian biodegradable plastic. This product takes 6 to 18 months to degrade, while conventional plastic takes 40 to 60 years, with an incalculable environmental impact.

Additional information at www.finep.gov.br .

Public Notice MCT/CNPq/CT-Infra nº 01/2003 – Public proposal selection to support small animal colonies to breed and maintain animals for Science, Technology and Infrastructure research.

Public Notice MCT/CNPq/CT-Hidro nº 02/2003 – Selection of research and development projects for the scientific and technological progress of the hydrological sector, emphasizing the sustainability of the Brazilian semi-arid region.

Public Notice MCT/CNPq/CT-Hidro nº 03/2003 – Selection of proposals for capacity building of personnel working at the hydrological resources sector. Funding source: Hydrological Resources Sectoral Fund.

IBAMA SPECIALIZED CENTERS

Specialized Center for Research and Management of Fisheries Resources of the Northeastern Region [CEPENE – Centro Especializado em Pesquisa e Gestão de Recursos Pesqueiros da Região Nordeste]: The permanent and strategic objective of CEPENE is to establish relations which contribute to strengthening the actions involving research, monitoring and regulation of the sustainable exploitation of fisheries resources in the north-eastern region of Brazil. The Center executes projects in partnership with governments, federal universities of the northeast, research institutions, national and international development agencies, NGOs, associations, fishermen villages, and labour unions of fishermen, ship builders and fisheries businessmen. CEPENE conducts fisheries resources prospection, monitoring activities and stock assessment of lobster, southern red snapper, mangrove crabs (*Ucides cordata* and *Cardisoma guaiamum*), and aratu (*Goniopsis cruentata* and/or *Aratus pisonii*), among other species. CEPENE also participates in projects and discussions on the São Francisco River Revitalization, and on the REVIZEE Program, which aims at assessing the sustainable yield of the living resources in the Exclusive Economic Zone.

Specialized Center for Research and Management of Coastal Lagoon and Estuarine Fisheries Resources [CEPERG – Centro Especializado em Pesquisa e Gestão dos Recursos Pesqueiros Lagunares e Estuarinos]: During the last few years, CEPERG has applied greater efforts into seeking new methodologies for the sustainable use of aquatic biodiversity at the coastal regions, which are characterized by conflicts involving the use of fisheries resources, specially at the estuaries and coastal lagoons. This Center has been responsible for the fisheries statistics of Rio Grande do Sul since 1945, and possesses one of the most extensive historical and technical data collection on national fisheries. Currently, the CEPERG executes projects at the Mirim and Mangueira lagoon complex, its affluents and tributaries (RS); Patos lagoon (RS); coastal lagoon complex of the northeast of Rio Grande do Sul state; Santa Catarina lagoon complex; Saquarema lagoon; and Rio de Janeiro lagoon complex. CEPERG also supervises the demersal fishing activities landed at Rio Grande do Sul, and develops environmental education actions at fishermen communities.

Specialized Center for Research and Management of the Fisheries Resources of the Northern Region [CEPNOR – Centro Especializado em Pesquisa e Gestão dos Recursos Pesqueiros da Região Norte]: CEPNOR actions aim at supporting the elaboration of rules and criteria for the sustainable management of the use of fisheries resources in the northern region, and also acts on the monitoring and control of environmental impacts directly or indirectly caused by human action, and which reflect on fishing and aquaculture. The Center executes projects on the assessment and management of the stocks of shrimp, piramutaba (*Brachyplatystoma vaillantii*), migrating catfish (*Genidens genidens*, *Genidens barbatus* and/or *Cathorops spixii*), among others, these latter being managed in partnership with CEPTA in the northern region of Brazil. CEPNOR also promotes the sustainable use of ornamental fishes. Several projects are conducted in partnership with UFRA and UFPA. CEPNOR participates in the REVIZEE Program and

develops the projects “Technological development for the capture of deep-sea demersal resources on the north coast of Brazil (Prodemersal)”, “Characterization of artisanal fishing at the communities that use fisheries resources of Pará state (Propesc)”, and “Fisheries statistics of the northeast of Pará state (Estat-pesca-PA)”.

Specialized Center for Research and Management of Fisheries Resources of the Southeast and South Regions [CEPSUL – Centro Especializado em Pesquisa e Gestão de Recursos Pesqueiros da Região Sudeste e Sul]: CEPSUL conducts activities on the management of the sustainable use of fisheries resources in the southeast and south coastal regions of Brazil. The activities of the Center aim at coordinating, promoting and executing studies, research and actions related to the prospection, assessment and monitoring of fisheries stocks; supporting environmental education actions; proposing technical recommendations for the definition of plans to supervise fishing activities; and analyzing research projects related to the collection and transportation of marine organisms, for licensing purposes. The CEPSUL develops some of its research projects in partnership with universities and research centers. Currently, CEPSUL develops monitoring and prospecting actions on fisheries stocks, particularly regarding sardines, calamari and demersal species.

Specialized Center for Research and Management of Continental Fisheries Resources [CEPTA – Centro Especializado em Pesquisa e Gestão de Recursos Pesqueiros Continentais]: CEPTA is generating, adapting and disseminating scientific, technological, socio-economic and environmental knowledge, which makes it an important source of information to support the elaboration of management rules and criteria for the sustainable use of continental fisheries resources, and the monitoring and control of the environmental impacts directly or indirectly cause by natural factors or human action. CEPTA conducts multidisciplinary research for the preservation of biodiversity and environmental quality, and for the management and rational use of genetic resources of tropical fishes. The Center also provides technical assistance to all IBAMA units and to other public or private agencies which conduct similar activities. The Center develops projects in collaboration with researchers from Unesp, USP, FZEA/USP, and other institutions. Studies are conducted on the reproduction of the arapaima, on spawning migration monitoring at the Paraguai river watershed, and on activities to support recreational fishing, among others.

As a means of promoting the decentralization of initiatives connected to science and technology, the states are being encouraged to create **State Foundations for Research Support [FAPs – Fundações de Apoio à Pesquisa]**. The table below demonstrates the distribution of FAPs among Brazilian states:

FAP	State	Region
São Paulo State Research Support Foundation	SP	Southeast
Minas Gerais Research Support Foundation	MG	
Carlos Chagas Filho Research Support Foundation	RJ	
Rio Grande do Sul State Research Support Foundation	RS	South
Araucária Foundation	PR	
Science and Technology Foundation	SC	
Mato Grosso Research Support Foundation	MT	Mid-West

Federal District Science and Technology Support Foundation	DF	
MS Support Foundation for the Development of Education, Sci&Tech	MS	
Pernambuco Science and Technology Support Foundation	PE	Northeast
Sergipe Research Support Foundation	SE	
Piauí State Research Support Foundation	PI	
Bahia State Research Support Foundation	BA	
Ceará Research Support Foundation	CE	
Alagoas Research Support Foundation	AL	
Paraíba State Research Support Foundation	PB	
Paraíba State Research Support Foundation	PB	
Amazonas State Research Support Foundation	AM	North

Among the FAPs, the following stand out for providing incentives to training and research on important subjects for the conservation of biodiversity: São Paulo State Research Support Foundation [FAPESP – *Fundação de Amparo à Pesquisa do Estado de São Paulo*], Carlos Chagas Filho Research Support Foundation [FAPERJ – *Fundação Carlos Chagas Filho de Amparo à Pesquisa*], Bahia State Research Support Foundation [FAPESB – *Fundação de Amparo à Pesquisa do Estado da Bahia*], Paraíba State Research Support Foundation [FAPEP – *Fundação de Amparo à Pesquisa do Estado da Paraíba*], and Pernambuco State Science and Technology Support Foundation [FACEPE – *Fundação de Amparo à Ciência e Tecnologia do Estado de Pernambuco*].

FAPESP: Supports the following projects related to biodiversity: **Research Program on the Characterization, Conservation and Sustainable Use of São Paulo State Biodiversity (BIOTA-FAPESP)**. Launched in March 1999, this program has the objective of mapping and analyzing the biodiversity in São Paulo state, including fauna, flora and micro-organisms. Its organization is similar to that of the Genome-FAPESP Program: the program is developed through a virtual network interconnecting over 500 researchers in São Paulo state, who participate in 50 research projects. In 2001, the program launched the SinBiota: Environmental Information System (<http://sinbiota.cria.org.br>). This system combines and integrates information produced by the researchers of projects connected to the Program, allowing the development of an electronic cartographic base of São Paulo state, containing the distribution of the species included in the catalogue. The maps include relief, drainage network, vegetation and climate. The SinBiota contains data on over 4,000 species of plants, animals and micro-organisms recorded in the state. In April 2002, the Program created the electronic journal, BIOTA Neotropica (www.biotaneotropica.org.br), which publishes original research results, connected or not to the Program, on conservation and sustainable use of biodiversity. Additional information at www.biota.org.br.

Genoma-FAPESP Program. Brazilian genomic research began in May 1997, when FAPESP organized the ONSA Network (Organization for Nucleotide Sequencing and Analysis) – a virtual research institute composed initially by 30 laboratories connected to research institutions of São Paulo state. This Program has deciphered the genetic material of the bacterium *Xylella fastidiosa*, which causes citrus variegated chlorosis (CVC). The project ended in November 1999 and the country made history by conducting the first ge-

netic sequencing of a phytopathogen – an organism which is the cause of a disease afflicting plants of economic importance. The project Sugar Cane Genome, initiated in 1988, identified 50,000 sugar cane genes to discover those involved in sugar development, production and content, as well as those responsible for the plant resistance to diseases and adverse soil and climate conditions. The project Human Cancer Genome initiated in April 1999, and identified, in less than one year, one million gene sequences of the most frequent tumours in Brazil. As a consequence, the Cancer Clinical Genome project was created, with the objective of developing new cancer diagnosis and treatment methods, based on the study of expressed genes. Concluded in May 2002, the *Xanthomonas* Genome mapped variants of the bacterium which cause citrus canker and also attack other plants. This study may influence all research on plant pathogens. In November 2001, FAPESP announced the beginning of the FORESTS project, which is sequencing part of the *Eucalyptus* genome, and is developed within the Partnership Program for Technological Innovation [PITE – *Programa Parceria para Inovação Tecnológica*], which has the objective of improving the quality of raw material used for cellulose and paper production. In July 2002, the *Schistosoma mansoni* project concluded the identification of 200 new genes associated to the life stages of the parasite which causes schistosomiasis and created new expectations for combating the disease. One month earlier, the genetic map of the bacterium *Leifsonia xyli* was concluded – this bacterium attacks sugar cane, reducing in up to 27% the amount of useful biomass for sugar and alcohol production. The *Leifsonia* project is the first entirely national project within a Genoma-FAPESP sub-program, the Agronomic and Environmental Genomes (AEG), created in 2000 with the sequencing of a *Xylella* variant which attacks grapevines. Within the AEG sub-program, the *Xylella* variants which attack the almond tree (*Prunus communis*) and the oleandro (*Nerium oleander*), an ornamental plant, were also studied. Information at <http://watson.fapesp.br/onsa/Genoma3.htm> .

FAPERJ. The Foundation supports the program **Rio de Janeiro State Biotechnology**, created to coordinate and harmonize the several projects and initiatives on Biotechnology, such as the Genoma Program (RioGene), Proteome, Transgenic Studies (animal, plant and insect genes), Monoclonal Antibodies, Structural Genome and Cell Biotechnology. The objective of the program is to promote actions to encourage interactions, avoid duplication of efforts, optimize the investment of financial resources, and propose strategies for the medium- and long-term development of basic and applied Biotechnology research in the state of Rio de Janeiro. Additional information at www.faperj.br .

FAPESB. The Foundation published a public notice in 2004, to select projects on environmental issues, with the objective of improving life conditions of the population in Bahia state. The priority themes were: Sustainable Agribusiness; Bio-Monitoring; Marine Ecosystems; Environmental Education; Alternative Power Sources; Strengthening of the Municipal Environmental Management; Strengthening of Participatory Management: Environment and Hydrological Resources Committees and Advisory Boards; Solid Waste Management – Alternatives for small communities; Environmental Quality Indicators; Cleaner Production; Water Re-utilization; Integrated Environmental Information Systems; Low Water Consumption Irrigation Technologies; and Ecological Tourism. Additional information at www.fapesb.ba.gov.br .

FAPEP. The Foundation supports the Project for the Sustainable Conservation of the Rio Marés Watershed. Additional information at www.fapep.pb.gov.br .

FACEPE. The Foundation published the PROMATA public notice in partnership with the Management Unit of the Sustainable Development of the Pernambuco Atlantic Forest Zone Support Program (UGP/PROMATA), a program partially funded by the Inter-American Development Bank (IDB), and selected proposals on research and development, technology transfer or development of studies, on subjects related to the PROMATA Technology Validation and Dissemination Project. Additional information at www.facepe.pe.gov.br.

FAPEAM. This Foundation has the mission of propitiating the increase of scientific and technological knowledge production, as well as its application, with economic and social development purposes, thus contributing towards the sustainability and the future of the population living in the Amazonas state. The following are FAPEAM responsibilities:

- To completely or partially fund or finance scientific and technological research projects considered as relevant for the scientific, technological, economic, social and sustainable development of the state;
- To participate in initiatives and programs on the capacity building of human resources of the science, technology and education institutions;
- To promote interchange of Brazilian and foreign researchers for the capacity building and scientific and technological development of the state;
- To support scientific and technological events in the state, as well as the participation of local researchers in similar events in Brazil and abroad;
- To promote and participate of initiatives for transferring technology resulting from research into the productive sector;
- To promote studies on the general status of the scientific and technological research in Amazonas state, to identify priority areas for FAPEAM investment;
- To promote or subsidize the publication of research results;
- To coordinate actions with MCT, State Secretariat for Science and Technology, State Science and Technology Council, and with other entities, for a more effective use of FAPEAM funds, according to the objectives and needs of the sector;
- To maintain scientific and technological records and databases;
- To periodically promote studies on the general status of research in the Amazonas state and in other Brazilian states.

NUCLEUS FOR ADVANCED ENVIRONMENTAL STUDIES [NEAMA – Núcleo de Estudos Avançados do meio Ambiente]. Connected to the Environmental Resources Center (CRA/SEMARH), this agency provides technical-scientific training on environmental issues. This initiative supports, discusses and disseminates studies and research on the use and conservation of natural resources. The project concept involves building capacity of institutional and human resources for sustainable development. Since its creation in 2002, NEAMA has developed and supported activities on technical and scientific education (M.S., technical school, extension course), an editorial line which produces five series of publications, and has also published 29 titles, in addition to the Terra Mater series of videotapes. The conduction of technical-scientific events allows the exchange of ideas and experiences, opening space for debates and the advance of knowledge. The Environmental Thursdays Program is a highlight – at its fifth edition, this program offers

a monthly presentation on an environmental theme, which is opened to the interested public. In partnership with universities, NEAMA promotes M.S., technical school and extension courses on environmental themes, to train governmental managers, NGOs, businessmen and independent professionals. Its environment-specialized library offers a collection of books, documents, videotapes, maps, reports, technical rulings, Environmental Impact Studies/Reports on Environmental Impacts, and other materials, to the internal and external public that use its facilities to study, conduct bibliographic inventories and research. The collection is listed in the electronic database, which may be accessed through the Web. www.seja.ba.gov.br.

89. On Article 12(b), does your country promote and encourage research which contributes to the conservation and sustainable use of biological diversity?

a) No

b) Yes (please provide details below)

X

Further information on the research which contributes to the conservation and sustainable use of biodiversity.

Science, Nature and Society Program. This program was instituted by the Federal Government Pluri-annual Plan, under the coordination of the Ministry of Science and Technology. The objective of the Program is to increase technical-scientific knowledge on the interactions among nature, science and society, which contribute to understanding global changes and to improve life quality of the population.

The **National Scientific and Technological Research Council - CNPq** promotes research by supporting the activities of research groups based in the country. The table below demonstrates the amount invested in science, technology and innovation, in those subjects relevant to the conservation and sustainable use of biodiversity.

Area	2002			2003			2004		
	Nº of Projects	Total (R\$ 1,000)	Total (US\$ 1,000)	Nº of Projects	Total (R\$ 1,000)	Total (US\$ 1,000)	Nº of Projects	Total (R\$ 1,000)	Total (US\$ 1,000)
Agr	230	17,003	6,884	560	19,211	6,546	449	22,317	7,365
Bio	279	13,386	4,875	632	23,489	7,698	516	27,929	9,211
E&E	285	9,781	3,299	458	13,768	4,599	513	30,433	9,938
Total	794	40,170	15,059	1,650	56,469	18,845	1,478	80,680	26,516
% of overall total	48.53%	45.31%	45.31%	53.50%	46.00%	46.00%	43.70%	39.40%	39.40%

Caption: - E&E: Exact and Earth Sciences; Bio: Biological Sciences; Agr: Agrarian Sciences.

Source: <http://fomentonacional.cnpq.br/dmfomento/home/fmtmenu.jsp?op=3&sop=1>

MCT Sectoral Funds. The Sectoral Funds were created in 1999 to ensure solid and permanent invest-

ments on scientific and technological research in Brazil. The resources to compose each Sectoral Fund are provided by public and/or private companies, which contribute to the government representing new investment sources for Science and Technology. Therefore, the Sectoral Funds facilitate not only the technological development for production activities, but also collaborate to the chain of knowledge directly or indirectly connected with the sectors. Brazil currently possesses 14 Sectoral Funds approved by Law. Together, they represent an addition of R\$ 1 billion per year to the Federal budget for Science and Technology – an innovative and evolutionary action provided by the public policy for research and development. Among these Sectoral Funds, two are directly connected to the conservation and sustainable use of biodiversity (agribusiness sectoral fund, and biotechnology sectoral fund). Additional information at www.cnpq.br.

Amazon Sectoral Fund – CT Amazon. This Fund supports research and development activities in the Amazon region, according to the project elaborated by the Brazilian companies of the computer sector installed at the Manaus Tax Free Zone. The resources amount to at least 0.5% of the net profit of those companies producing computer goods and services at the Manaus Tax Free Zone.

Infrastructure Sectoral Fund (CT Infra). This Fund has the objective of modernizing and expand the infrastructure and support services available to research developed at Brazilian public higher level education and research institutions.

CNPq Public Notices. CNPq provides incentives to research and scientific training on strategic subjects through the publication of public notices. The public notices to support research and training on fields directly related to conservation and sustainable use of Brazilian biodiversity are listed below:

- Public Notice CNPq 08/2004. Public proposal selection for Courses to Train Human Resources in Biotechnology – CBAB.
- Public Notice CNPq 09/2004. Public selection of biotechnology research and development projects to be developed within the activities of the Brazilian-Argentine Biotechnology Center – CBAB.
- Public Notice CT-Biotechnology/MCT/CNPq 010/2004. Public selection of genomic research and development projects for application on human and animal health, agriculture, industry and environment, using the existing genomic and bio-informatics infrastructure in the country.
- Public Notice CNPq 011/2004. Public selection of Joint Research Projects of the Maritime Sciences Program, of the Brazil/Germany cooperation agreement.
- Public Notice CT-Agro/MCT/MDA/CNPq 022/2004. Public selection of project proposals on Appropriate Technologies for Family Agriculture.
- Public Notice CT-Mineral/MCT.CNPq 026/2004. Public selection of research project proposals on the Development of Technologies and Methodologies to Abate Environmental Impacts Caused by the Mining Industry.
- Public Notice CT-Amazon/CT-Agro/FVA/CT-Petro/MCT/CNPq 028/2004. Public selection of research project proposals on the study of the production of oil producing plants in the states of the North region.
- Public Notice CT-Petro/MCT/CNPq 040/2004. Public selection of research and development projects for mapping environmental awareness concerning oil on the coastal and marine zones,

through the elaboration of environmental awareness charts for oil spills (SAO charts) on the Santos Marine Sedimentary Basin.

- Public Notice CT-Energ/MME/CNPq 03/2003. Public Notice to promote the implementation of projects on power generation systems of up to 200kW, based on sustainable sources, to comply with the demand of isolated localities of the Brazilian Legal Amazon, which are not connected to the basic network of the interconnected system for power transmission, and including the dissemination of knowledge.
- Call for Projects nº 014/2002 – Biosafety. To strengthen academic capacity by stimulating basic and applied studies on biosafety of GMOs.
- Call for Projects nº 04/2002. Published for the contracting of projects addressing themes within two research networks: Network 1 – Integrated studies focusing themes related to global environmental change; Network 2 – Monitoring local environmental impact caused by Brazilian activities at the Almirantado Bay Antarctic Specially Managed Area.

Research and Development on Social and Natural Sciences at the Emílio Goeldi Museum [MPEG

– *Museu Paraense Emílio Goeldi*]. Starting in 2002, the Biodiversity research projects developed at the Goeldi Museum were conducted through the Amazon Biodiversity Program, which has the objective of conducting the inventory, mapping and characterization of the Amazon biodiversity, making this knowledge available to the public to support and stimulate actions for the environmental preservation of the region. Within this program, the Emílio Goeldi Museum (MPEG) joined several public and private institutions to conduct projects with the purpose of consolidating information. Thus, numerous projects were developed with funds from MCT and other public and private institutions. Some highlights are the project Biota-Pará, a partnership with the Conservation International – Brazil; Caxiuanã Biodiversity Monitoring project (TEAM-Caxiuanã); Caxiuanã Multi-Taxa Inventory project (PNOPG/CNPq); PROBIO-Marajó project; PROBIO-Cachimbo project; and, more recently, the PPBio/MCT project. All these projects brought enormous contributions to knowledge on Amazon biodiversity, additions to the biological collections in MPEG, and allowed a greater insertion of the Goeldi Museum into multidisciplinary and inter-institutional research, in addition to disseminating and providing incentives to biodiversity scientific research in the states of Pará and Amapá. These projects also represented a large contribution to the implementation of the National Biodiversity Policy. The main results obtained by the program were:

- Conduction of the workshop “Inventory strategies for the knowledge and conservation of Amazon biodiversity”;
- Conduction of the workshop “Tools for species distribution modelling at tropical environments”;
- Structuring of the database on the MPEG vertebrate collection;
- Onset of the elaboration of the list of endangered species of Pará state;
- Conduction of two Special Training Courses on Plant Collection and Identification, to train technical personnel.

Additional information at www.museu-goeldi.br .

Forest University. This institution proposes a regional development program for the interior of Acre state capable of (i) applying good ecological sense to the use of the megadiversity and abundant natural resources; (ii) integrating forest communities to the process of producing knowledge, by promoting dialog

between traditional knowledge on natural resources and scientific research; (iii) improving life quality of the population on sustainable bases. To achieve these goals, the institution is broadening the actions conducted by the Acre Federal University, and taking its activities inland for the construction of a learning and research network capable of building a new regional development and influence center at the regional and international levels. There is a solid scientific base for developing the Biodiversity Institute as a pioneer research center, seeking the conservation and use of the forest in partnership with traditional communities. This scientific base is provided by the activities of the Acre Federal University [UFAC – *Universidade Federal do Acre*] in Rio Branco, as well as by its activities at the Advanced Campus of Cruzeiro do Sul, at the Zoobotanical Garden, at the Chico Mendes Extractive Reserve, and at the Serra do Divisor National Park. The scientific base is also provided by a long teaching and training experience of the Pro-Indian Commission and Amazon Workers Center; by long-term scientific projects supported by the scientific cooperation of the Brasília University, Viçosa University, Campinas State University and São Paulo University, as well as INPA and EMBRAPA; and by cooperation with international research institutions, among which the Woodshole Institute and the New York Botanical Garden, which have generated knowledge on the biota, ecosystem processes, and socio-economic aspects of the high Juruá river, and contributed to build the capacity of researchers and professors to the higher standards. Additional information at www.unifloresta.cjb.net .

Research at Conservation Units. This is a program executed by the Department of Forests and Protected Areas of the Rio Grande do Sul State Secretariat for the Environment, with funds from the state government. Its objectives are:

- To conduct scientific research at Conservation Units to provide information for the elaboration and revision of management plans, through technical cooperation terms signed with Universities and Research Institutions.
- To comply with one of the purposes of Conservation Units, which is the development of scientific research, according to the appropriate legislation.

Additional information at www.sema.rs.gov.br .

Bio-regional Studies Project. This project is executed by the CRA/BA in partnership with three universities (Santa Cruz State University – UESC, Feira de Santana State University – UEFS, and Bahia State University – UNEB), with the objective of developing and disseminating knowledge on the caatinga, Atlantic forest and cerrado biomes. The project works through three Bio-regional Bases (Atlantic Forest Base, Caatinga Base and Cerrado Base), which develop local partnerships for the elaboration and implementation of biodiversity conservation projects.

90. On Article 12(c), does your country promote and cooperate in the use of scientific advances in biological diversity research in developing methods for conservation and sustainable use of biological resources?

a) No

b) Yes (please provide details below)

X

Further information on the use of scientific advances in biodiversity research in developing methods for conservation and sustainable use of biodiversity.

CAPES Periodic Journals Portal. Considering that access to quality scientific information is fundamental for the progress of scientific research on any field (including those related to biodiversity), the maintenance and broadening of the access to international periodic publications is an important element to support research. Therefore, it is applicable to detail the progress obtained in 2003 towards providing access to scientific information. The Periodic Publication Acquisition Support Program [PAAP – *Programa de Apoio à Aquisição de Periódicos*] was created by CAPES in 1994 and in recent years has undertaken a more relevant role in ensuring, to the Brazilian academic community involved in post-graduate activities and high level research, access to the international scientific and technological production. In 2002, PAAP acquired from international editors the electronic access to the content of periodic publications and bibliographic reference bases, and provides this access to members of education and research institutions. To implement actions to improve and broaden this important program, the Portal Negotiation Commission was created to supervise the process of contract re-negotiation with the suppliers and editors, to reduce costs and increase the number of accessible bases and, consequently, to increase the number of users. Currently, 97 institutions participate in the program and have access to the Portal. These institutions are included in the following categories:

- Federal institutions for higher education;
- Research institutions that grant post-graduate degrees evaluated by CAPES;
- State and municipal institutions for higher education whose post-graduate degree courses were evaluated by CAPES;
- Private institutions for higher education which possess at least one PhD course evaluated by CAPES, and which received a grade equal to or higher than 5.

Additional information at www.capes.gov.br .

Lattes Platform: This platform is composed by a series of information systems, databases and Web portals on Science and Technology management. It was designed to integrate the information systems of federal agencies, rationalizing the management process of Science and Technology. Additional information at <http://lattes.cnpq.br> .

SciELO. The Scientific Electronic Library Online (SciELO) is an electronic library which includes a selected collection of Brazilian scientific journals. SciELO results from a FAPESP research project in partnership with BIREME – Latin American and Caribbean Information Center on Health Sciences [*Centro Latino-Americano e do Caribe de Informação em Ciências da Saúde*]. The project has received support from CNPq since 2002. The project has the objective of developing a common methodology for the preparation, storage, dissemination and evaluation of the scientific production in electronic format.

The objective of the site is to implement an electronic library, providing full access to a collection of serial titles, a collection of issues from individual serial titles, as well as to the full text of articles. The access to both serial titles and articles is available via indexes and search forms. Additional information at www.scielo.br .

PROANTAR Program. This is a program of the Federal Government Pluri-annual Plan, with the objective

of conducting joint research to generate scientific knowledge on Antarctic phenomena. The program is executed by the Secretariat of the Inter-Ministry Commission for Marine Resources and by the National Council for Scientific and Technological Development. The PROANTAR scientific activities are distributed by the Sub-programs on Atmospheric Sciences, Earth Sciences and Life Sciences, which comprise the following fields of knowledge: atmospheric circulation, high atmosphere physics, climatology, meteorology, continental and marine geology, glaciology, oceanography, biology, ecology, astrophysics, geomagnetism, and nuclear physics. Currently, 28 research projects and 2 technological projects are being developed. Additional information at www.secirm.mar.mil.br.

The Special Secretariat for Aquaculture and Fisheries of the President's Office financed, in 2004, the study on the **Biology of Spearfishes of the Istiophoridae Family Caught in the South Atlantic Ocean**, in partnership with North American research institutions. Due to the increase of world level fishing efforts concentrated on spearfishes, there is currently a clear global effort to define the species population structure. Therefore, it is a national responsibility to generate information to contribute to a better understanding of the population dynamics of spearfish species captured by the Brazilian fleet. The proposed objective is to increase knowledge on the population dynamics of the Atlantic white marlin (*Tetrapturus albidus*), Atlantic blue marlin (*Makaira nigricans*), longbill spearfish (*Tetrapturus pfluegeri*), and Atlantic sailfish (*Istiophorus albicans*) in the South Atlantic.

The Special Secretariat for Aquaculture and Fisheries of the President's Office also financed, still in 2004, a study on the **Dynamics and Stock Assessment of the Atlantic Thread Herring in the Northeast Region**. The Atlantic thread herring (*Opisthonema oglinum*) belongs to one of the most exploited fish families in the entire world, the Clupeidae. Despite its great commercial importance, impact studies of the fishing activities on the *O. oglinum* population in the northeast region have not yet been conducted. One of the most important pieces of information for the conservation and management of a population is the species reproduction, which has the function of maintaining the population renewal capacity, necessary to avoid exacerbated growth of one population in detriment of other populations, or to compensate biomass removal through fishing.

Box XI.

Please elaborate below on the implementation of this article specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) The CNPq Sectoral Funds allowed a large investment in the biotechnology and agribusiness fields. The last few years brought great progress to the decentralization of Science and Technology actions, through the FAPs. Among the FAPs, FAPESP is a highlight for funding large

biodiversity projects. The creation of PPBio also represents important progress, since it will allow increase of biodiversity knowledge, in addition to representing progress in the encompassing inclusion of biodiversity, since it is a program under the responsibility of the Ministry of Science and Technology. The expansion and consolidation of the CAPES Periodic Journals Portal also produces a large impact on research, since it allows access to the vast majority of international journals.

- b) The mentioned initiatives directly contribute towards the achievement of objective 2 of the CBD Strategic Plan (Parties have improved financial, human, scientific, technical, and technological capacity to implement the Convention).
- c) The mentioned initiatives do not directly contribute towards the achievement of the CBD 2010 Goals.
- d) The mentioned initiatives directly contribute to the implementation of Component 1 of the National Biodiversity Policy, which concerns the generation, systematization, and providing access to, information that provide knowledge on the country's biodiversity components, and which support biodiversity management, as well as directives related to the production of inventories, conduction of ecological research, and conduction of research on traditional knowledge.
- e) The mentioned initiatives do not directly contribute towards achieving the MDGs.
- f) Lack of resources; marked regional differences, which are reflected in the differentiated level of knowledge on Brazilian biodiversity of each region of the country.

Article 13 - Public education and awareness

91. Is your country implementing a communication, education and public awareness strategy and promoting public participation in support of the Convention? (Goal 4.1 of the Strategic Plan)

a) No	
b) No, but a CEPA strategy is under development	X
c) Yes, a CEPA strategy developed and public participation promoted to a limited extent (please provide details below)	
d) Yes, a CEPA strategy developed and public participation promoted to a significant extent (please provide details below)	

Further comments on the implementation of a CEPA strategy and the promotion of public participation in support of the Convention.

National Environmental Education Policy. Law nº 9795, of 27 April 1999, instituted the National Environmental Education Policy; and Decree nº 4281, of 25 June 2002, regulated that Law.

National Environmental Education Program [PRONEA – Programa Nacional de Educação Ambiental].

This program is coordinated by the agency responsible for the management of the National Environmental Education Policy, and its actions have the purpose of ensuring the balanced integration of the multiple dimensions of sustainability - environmental, social, ethical, cultural, economic, spatial and political – into the education sector, contributing to the country’s development and resulting in better life quality for the entire Brazilian population, through social involvement and participation in environmental protection and conservation, and in maintaining environmental conditions in the long term. With this purpose, it incorporates the four directives of the Ministry of the Environment: encompassing inclusion of biodiversity issues; strengthening of the National Environmental System [SISNAMA – *Sistema Nacional de Meio Ambiente*]; sustainability; and social participation and control.

The PRONEA mission was defined as “to stimulate the expansion and deepening of environmental education at all municipalities and sectors of the country, contributing to the construction of sustainable territories and active and happy people”. The objectives of the program are:

- To stimulate and support environmental education processes in the construction of social values and relations, knowledge, abilities, attitudes and capacities, which contribute to the participation of all people in the construction of sustainable societies.
- To stimulate and support processes on training and capacity-building of human resources in environmental education.
- To contribute to the organization of professionals and institutions which participate in intervention, education and research programs on environmental education.
- To contribute to the incorporation of the environmental dimension into the development and life quality improvement projects, into governmental sectoral policies and programs at all governmental levels and sectors, into companies, and into civil society organizations.

Additional information at:

http://www.mma.gov.br/index.cmf?id_estrutura=20&id_menu=462&id_conteudo=1068 .

The **General Environmental Education Coordination** [COEA – *Coordenação Geral de Educação Ambiental*] of the Ministry of Education has the following strategic guidelines:

- Encompassing action with MMA and effective participation in the Management Agency;
- Continuity of the process of the Youth-Juvenile Conference for the Environment;
- Re-coordination of the State Organizing Commissions [COEs – *Comissões Organizadoras Estaduais*] and Youth Councils [CJs – *Conselhos Jovens*];
- Contribution to the dissemination of the SEACAD and of the National Environmental Education Program [ProNEA – *Programa Nacional de Educação Ambiental*];
- Dissemination of updated knowledge on science and environmental policies issues using network strategies, publications, and electronic information;
- Acceptance, by all states, of the proposal to train environmental educators and install a Environmental and Life Quality Council at School, and implementation of the Agenda 21 - School;
- Inclusion of the Environmental Education programs conducted by Universities, NGOs and Social Movements, into the challenge of fixing Environmental Education, as well as to supervise its local and regional unfoldings;
- Organization of the courses “Training of Trainers I” (from 26 to 31 July 2004, in Brasília) and “Trainers II” (in September, in all states).

Additional information at <http://www.mec.gov.br/se/educacaoambiental/estrategia.shtm> .

Program “Let’s Take Care of Brazil through the Schools” [*Vamos Cuidar do Brasil com as Escolas*].

In 2003, the Ministry of the Environment launched the campaign “Let’s Take Care of Brazil through the National Environmental Conference”, with adult and juvenile versions. The National Youth-Juvenile Environmental Conference, conducted in partnership with MEC, had the participation of almost 16,000 schools, where approximately 6 million people, among students, teachers and communities, debated environmental issues. This movement included, in addition to regular junior and middle schools, schools for people with special needs, and schools from the following community types: indigenous, quilombola, riverside, coastal, settlement, and fishing communities. The engineering of this implementation capillarity resulted in the continuation of this program as a policy for environmental capacity building of the Education Secretariats, reinforcing the role of the trainer-teacher as a sort of “teacher’s teacher”. Thus, the development of a series of actions was proposed within the schools which spontaneously conducted Environmental Conferences. The action named “Let’s Take Care of Brazil through the Schools” became a program, which aims at a natural unfolding of this mobilization, and offers a response to the demand of detailing the theme, presented by involved parties. This movement coincided with the conclusion of the PAMA evaluation, which mapped the continuity of environmental training of trainer-teachers from a systemic point of view, based on four structuring actions: National Environmental Conference, Continuous Training of Teachers and Students, Computer Literacy based on Easily Understood Scientific Language, Chico Mendes Education. The education material adopted for training teachers and to support activities at schools was “Sustainable Consumption: education handbook” [*Consumo Sustentável: manual de educação*] (Idec / MMA / MEC 2004).

Additional information at <http://www.mec.gov.br/se/educacaoambiental/pdf/cuidar.pdf> .

Environmental Education Program for Sustainable Societies. This is a program of the Federal Government Pluri-annual Plan, with the objective of stimulating and supporting environmental education processes in the construction of social values and relations, knowledge, abilities, attitudes and capacity which contribute to the participation of all people in the construction of sustainable societies. The program is executed by the following institutions: Executive Secretariat/MMA; IBAMA; National Environment Fund; Rio de Janeiro Botanical Garden Research Institute; Secretariat of the Inter-Ministry Commission for Marine Resources; National Water Agency.

Conscious Conduct at Natural Environments Program. Executed by the Brazilian Parks Program of the Directorate of Protected Areas of the Ministry of the Environment, the campaign Conscious Conduct at Natural Environments is based on the dissemination of a series of behaviour principles for potential visitors of protected areas. These principles, known as being of "minimum impact", result from a consensus among environmentalists, researchers, and those who practice recreational activities at natural environments, and have been successfully applied by several countries to reduce visitor impact. The partners of the Program enrolled voluntarily, and voluntaries may also enrol at the conservation units. Additional information at <http://www.mma.gov.br/port/sbf/dap/comopart.html> .

Bill 1016/2003. This Bill is currently being analysed by the House of Representatives. It adds article 19 to Law n° 9795, of 1999, which "rules on environmental education, institutes the National Environmental Education Policy, and rules on other subjects", to determine that a percentage of the expenses with commercial marketing of products using disposable packaging must be granted to environmental education. This Bill considers as disposable packaging those impossible to reuse in their original form, according to the list presented by ABRE – Brazilian Packaging Association [*Associação Brasileira de Embalagem*]. It also determines that Environmental Education plans, programs and projects must receive at least 20% (twenty percent) of those resources collected by fines issued to those breaking environmental legislation. The collected resources will be deposited into the Environmental Education Portfolio of the National Environment Fund. Additional information at:

http://www2.camara.gov.br/internet/proposicoes/chamadaExterna.html?link=http://www3.camara.gov.br/internet/sileg/prop_lista.asp?sigla=PL&Numero=1016&Ano=2003 .

PROBIO Public Consultation (July 2004): Published to comply with the Donation Agreement TF 28309, signed between the Ministry of the Environment and the World Bank, which emphasizes the need to publicize and disseminate results produced by projects supported by PROBIO. The dissemination of biodiversity importance and of other related themes to a broad audience arises from the ascertainment of the scope and seriousness of biodiversity loss. It is a consensus that one of the most important instruments to abate and reverse this situation should be the clarification and dissemination of the problem, combined with broad educative and participatory campaigns.

The objective of this Public Consultation was to produce printed education material on Brazilian biodiversity including information on Brazilian biomes, Brazilian endangered wildlife (those species figuring on the official list), the problems generated by ecosystem fragmentation and by invasive species, and the importance of Conservation Units.

The produced material will be used to support the development of education activities related to Biodiversity conducted by junior and middle-school teachers and their students, and by educators involved in locally developed Environmental Education projects. The objective is to produce informative material to support teaching, which presents the theme in a comprehensive manner allowing multiple uses of this material, which should be adaptable to the diverse national realities while playing an integrating role, in such a way that the conservation of Biodiversity may be understood from the local to the global scale.

Environmental CID. This is a center which aggregates all publications produced by the Ministry of the Environment. The following activities are conducted by this center: organization of the collection of publications on socio-environmental subjects, maintaining the technical records of the publications; supporting bibliographic research; lending of publications and videotapes; shipping of materials to states and to Green Rooms; receiving the external, internal and official demands on environmental issues; assisting users to access the collection (locally and online); and shipping of publications. Additional information at www.mma.gov.br/educambiental .

92. Is your country undertaking any activities to facilitate the implementation of the programme of work on Communication, Education and Public Awareness as contained in the annex to decision VI/19? (decision VI/19)

a) No	
b) No, but some programmes are under development	
c) Yes, some activities are being undertaken (please provide details below)	X
d) Yes, many activities are being undertaken (please provide details below)	

Further comments on the activities to facilitate the implementation of the programme of work on CEPA.
See comments in the other Questions in this Article.

93. Is your country strongly and effectively promoting biodiversity-related issues through the press, the various media and public relations and communications networks at national level? (decision VI/19)

a) No	
b) No, but some programmes are under development	
c) Yes, to a limited extent (please provide details below)	X
d) Yes, to a significant extent (please provide details below)	

Further comments on the promotion of biodiversity-related issues through the press, the various media and public relations and communications networks at national level.

Socio-environmental Education and Communication Program. Executed by the Directorate of Environmental Education of the Ministry of the Environment, this program conducts the following activities: to promote the interactive production of socio-environmental education programs and campaigns; to support

and strengthen the environmental education and communication networks; to promote the national mapping (state of the art) of environmental communication in Brazil; to implement an interactive system for interchange and broadcasting of environmental education productions through mass media; to promote the training of environmental educators-communicators; to assist groups involved in environmental education in accessing means to produce communication; to contribute to the research and offer of methodologies for communication diagnosis and for planning communication strategies within socio-environmental projects and programs.

Additional information at www.mma.gov.br/educambiental .

National Information System on Environmental Education [SIBEA – *Sistema Nacional de Informação sobre Educação Ambiental*]. The SIBEA was developed by the Directorate of Environmental Education of the Ministry of the Environment, in partnership with environmental education networks, governmental institutions, and NGOs. SIBEA is currently a public system which serves as an instrument to promote interaction between the Management Agency of the National Environmental Education Policy [PNEA – *Política Nacional de Educação Ambiental*] with the environmental educators throughout the country, and most importantly, to promote interaction among environmental educators. Its mission is to manage information on environmental education to support, according to the PNEA, the planning, promotion, coordination and dissemination of education actions conducted to benefit society. Within this system it is possible to find information on specialists, institutions, legislation, publications, programs, projects, and news articles related to environmental education. The objectives of the SIBEA are to learn about the status of environmental education in the country and to disseminate this knowledge; to comply with the Environmental Education Policy and its regulation; and to constitute a SIBEA Management Group [GGSIBEA – *Grupo de Gestão do SIBEA*].

Additional information at http://www.mma.gov.br/port/sdi/ea/sibea_extras/indexatuais.htm .

Promotion of Sustainable Consumption. This program is executed by the Ministry of the Environment with the objective of promoting actions to induce the Brazilian society to adopt sustainable consumption standards. The program produces and disseminates information on sustainable consumption standards in Brazil, consolidating the implementation of a public policy to strengthen the responsibility of governments, private sector and society, of constructing a sustainable and inclusive development model. Of all campaign products produced in partnership with the Consumer Protection Institute, the impacts of consumption on biodiversity are a highlight. Main results achieved:

- Elaboration of the Best Practices for Sustainable Consumption Guide (available at <http://www.mma.gov.br/port/sds/index.cmf>);
- Elaboration of the Education for Sustainable Consumption Handbook;
- Production of five television programs on sustainable consumption, focusing the themes: biodiversity, trash, energy, water and food;
- Elaboration of the Second Edition of the Education for Sustainable Consumption Handbook, in partnership with the Ministry of Education.

IV Seminar on Communication and Environment in Brazil: Communication, Environmental Risk and Environmental Crisis. The seminar was conducted in 2003, in Brasília (DF), and integrated a cycle

of events debating themes such as: oil and gas; technology; energy; health and safety; residues; tourism; among others. These events were promoted by the Coordination of Projects on Socio-environmental Economy of the Brazilian Economy Institute [IBRE – *Instituto Brasileiro de Economia*] of the Getúlio Vargas Foundation. This cycle of events discusses the role of Communication as a strategic action for managing environmental risk and crises. The Seminar was divided into three modules:

1. Public Policies;
2. How the media deals with environmental issues;
3. Communication as an instrument for environmental education and information.

Information at http://www.opas.org.br/ambiente/temas_eventos_detalhe.cfm?id=29&idevento=60 .

There are television programs on themes related to biodiversity conservation. The most important programs are:

- *Globo Ecologia*. Produced by the partnership between Rede Globo and Roberto Marinho Foundation, this program broadcasts factual reports on Brazilian biomes and endangered species, among other themes, using language and resources (images and computer graphics) which facilitate understanding by the general public.
- *Tom da Mata*. Produced by the Futura Channel, this program stimulates the development of environmental protection activities (particularly for Atlantic Forest protection), and of music education activities, by using several education materials, methods and innovations. The work of conductor Tom Jobim and his passion for the Atlantic Forest are the base of the project.
- *Um Pé de Quê* (what type of tree). This program shows the many species of our flora. The approach used by the program begins with the discussion of botanical aspects, such as origin, physical characteristics, and flowering season, of a given plant; followed by the presentation of sections of Brazilian history in which the plant was involved. Additional information at <http://www.futura.com.br/paginaprograma.asp?P=138> .
- *Tom do Pantanal*. This program is broadcasted to 800 schools with approximately 800,000 students at several regions of the country. The objective of the program is to promote environmental education in an interdisciplinary fashion, creating awareness among students about the need to preserve the environment and to promote the sustainable development of the Pantanal region. The schools received education kits containing: 13 videotapes (10 thematic tapes, one introductory tape, one training tape, and one on environmental education); cassettes containing music composed by several Brazilian composers, and composers of the Pantanal region; a music book containing the scores of the music recorded in the cassettes and music education activities; games containing Pantanal elements, to stimulate curiosity and the discovery of the environmental characteristics of each locality; teacher's book; and an assay kit to assess local environmental conditions. <http://www.futura.com.br/paginaprograma.asp?P=174> .
- *Globo Repórter*. A program of the open channel television (Rede Globo) which, among others, addresses themes related to biodiversity. Information at www.globo.com/globoreporter
- *Janela Natural* (natural window). Broadcasted by TV Futura, this program is composed by a series of 100 spots lasting 8 minutes each, on various environmental themes. Additional information at <http://www.futura.com.br/janelanatural> .
- *Telecurso Especial – Educação Ambiental* (special television course – environmental education).

Broadcasted by TV Futura, this program is directed at workers with low education levels, both youth and adults, and offers supplementary courses at the junior and middle-school levels. <http://www.futura.org.br/telecursoespecialeducacaoambiental> .

- *Viva o Povo do Mar* (hail to the sea people). Broadcasted by TV Futura, this program addresses the Brazilian population living on the coast: its relationship with Nature, its ways of travelling on the ocean, its ways of using natural resources, and the initiatives aimed at increasing knowledge on this immense natural heritage. <http://www.futura.org.br/programa.asp?P=95>

Mater Natura Report [*Informativo Mater Natura*]. This is a monthly electronic report produced by Mater Natura, which has the main purpose of systematizing and disseminating information concerning biodiversity conservation. Additional information at www.maternatura.org.br .

94. Does your country promote the communication, education and public awareness of biodiversity at the local level? (decision VI/19)

a) No	
b) Yes (please provide details below)	X

Further information on the efforts to promote the communication, education and public awareness of biodiversity at the local level.

Green Room Project [*Projeto Sala Verde*]. Coordinated by the Directorate of Environmental Education of the Ministry of the Environment [DEA/MMA – *Diretoria de Educação Ambiental/Ministério do Meio Ambiente*], this program provides incentives to the implementation of Green Rooms around the country, with the objective of creating an Environmental Information Center. This project’s vision is to use the full potential of existing spaces, structures and initiatives at various institutions, such as public agencies (municipal, district, state and federal), private agencies, and third sector agencies, which already conduct actions to democratically share environmental information within the regions and among the public with which they work. A Green Room is a defined space within an institution, which is dedicated to the design and development of education activities on environmental issues, using as a major education tool the dissemination of publications on environmental themes produced or provided by the Ministry of the Environment through the Environmental CID. The Green Room is an initiative with the potential to perform a variety of functions: environmental, cultural, social, information provider, research, coordination, among others. The Green Room consists of four fundamental elements: space, equipment and resources, staff, and education program. Brazil currently possessed 111 Green Rooms, 45 of which were established in the period of 2000-2004, and 66 were established as a result of the Public Notice 01/2004. Additional information at http://www.mma.gov.br/port/sdi/ea/sala_verde/index.htm .

Fixing Environmental Education in Brazil. Coordinated by the Directorate of Environmental Education of the Ministry of the Environment [DEA/MMA – *Diretoria de Educação Ambiental/Ministério do Meio Ambiente*], this program has the following objectives: reaching the full potential of Environmental Education all over Brazil, and contribute to the empowerment of the various players within the Environmental Education arena; coordinate and strengthen entities, institutions and representative councils, which work with

Environmental Education, encouraging collaboration among actions, projects and programs. Promoting this interaction means to create a network structure, capable of strengthening education activity and allowing these activities to reach all Brazilians.

Additional information at www.mma.gov.br/educambiental .

Water-Wheel Project [*Projeto Roda D'Água*]. This is an environmental education program incorporated into the national middle-school curriculum, into Laws regulating the theme in Brazil (Law of Directives and Bases, and Environmental Law), and into directives defined by Agenda 21. The program is presented as a teaching methodology which encompasses primary and secondary education. Because of its project characteristics, its implementation respects the local issues of each region, as well as Brazilian cultural, social and economic diversity. As suggested by the project title, water (more specifically the hydrological resources regionally delineated by a watershed) is the starting point for the approach, the knowledge, the learning, the discussions, the conclusions, and finally the awareness building and the inspiration of proactive attitudes concerning environmental issues. The Water-Wheel Project seeks to provide the educator with instruments to facilitate understanding and acquisition of knowledge on the regional watershed and of all impacts caused to and suffered by, the watershed because of human action. The use of watershed maps is fundamental for this understanding, and is one of the strongest aspects of this Project. The Project coordinates, at the local level, with the Watershed Committees, created by the National Policy on Hydrological Resources. The implementation of the Water-Wheel Project in municipal schools occurs, ideally, by request of the Municipal Government through the Municipal Secretariats for Education and Environment. Information at www.rodadagua.com.br .

Public Notice MCT/SECIS/CNPq nº 07/2003: Public selection of proposals to support Museums and Science Centers.

South-Brazilian Environmental Education Network [REASul – *Rede Sul Brasileira de Educação Ambiental*]. This network was created in April 2002, and was strengthened by the approval of the project “Weaving Environmental Education Networks in the South Region”, funded by the National Environment Fund [FNMA – *Fundo Nacional do Meio Ambiente*]. REASul is a social network created by the coordination among people and institutions with shared purposes, which connects, in person or virtually, the participating educators, researchers, public policy managers, technicians, NGOs, Social Organizations of Public Interest [OSCIPs – *Organizações da Sociedade Civil de Interesse Público*], and social movements. Additional information at <http://reasul.univali.br/> .

Sustainable Educator Municipalities Project. This project is executed by the Directorate of Environmental Education of the Ministry of the Environment [DEA/MMA – *Diretoria de Educação Ambiental*], and has the objective of supporting the elaboration of municipal Environmental Education programs and projects, among other objectives. Additional information at www.mma.gov.br/educambiental .

Environmental Education at localities close to the Hydroelectric Power Plant of FURNAS. A proposal was created to conduct Environmental Education at the localities where FURNAS is present, with the purpose of contributing to provide the necessary conditions for the development of social attitudes and

behaviour which are favourable to the environment, while strengthening the process of building citizenship, thus creating the conditions for individual and collective access to natural resources. The project objectives are:

- To promote an awareness building process, reaching the various social players of the communities located close to the venture, with the purpose of encouraging the adoption of practices which are compatible with environmental protection.
- To mobilize and guide workers and supervisors involved in the construction and operation of the ventures concerning environmental protection measures, as well as adequate conducts for a good relationship with the communities.
- To present the measures to be adopted to minimize the interference of the venture on the environment.
- To enlighten the communities in order to ensure a socially adequate and healthy co-existence among the communities residing close to the venture and the workers directly or indirectly involved in the construction.
- To integrate the communities into the planning of Environmental Education actions conducted by the Company, and to consolidate the adequate co-existence between the local communities and the venture during the construction and operation stages.
- To train educators of the public education network or community leaders as multiplying agents of environmental education, for the dissemination of information, social mobilization and awareness building, and for the planning and implementation of socio-environmental actions at their localities.
- To produce and edit education material, designed for the regional population, with the purpose of providing instruments to educators and stakeholders to support the process of building awareness among the population concerning the importance of conserving and/or restoring the environment.

Additional information at http://www.furnas.com.br/meioambiente_educambiental.asp .

Environmental Education in the States. The decentralization of environmental management in Brazil is a growing trend. Since Environmental Education is one of the main axes of environmental management, many state governments are conducting environmental education actions, programs and projects. Given the large amount of initiatives, it is not possible to list them all. Below are listed the state agencies responsible for environmental education initiatives:

1. Acre – Environmental Education Administration Unit of the Acre Environmental Institute: <http://www.seiam.ac.gov.br/educacao.php> .
2. Bahia – Bahia State Inter-institutional Environmental Education Commission: <http://www.seia.ba.gov.br/educacao> .
3. Ceará – Environmental Education Program of the Secretariat for the Environment: <http://www.semace.ce.gov.br/programas/peace/peace.asp> .
4. Federal District – New Green Environmental Education Program - Secretariat for Environment and Hydrological Resources: www.semarnh.df.gov.br/005/00502002.asp?ttCD_CHAVE=3963 .
5. Goiás – Environmental Communication Program of the Goiás State Environmental Agency: http://www.agenciaambiental.go.gov.br/projetos/p_proj_comunic.php .

6. Maranhão – State Government Environmental Education Program: http://www.ma.gov.br/cidadao/programas_acoes/meio_ambiente/educacao_ambiental.php .
7. Mato Grosso – Environmental Education Advisory Unit of the State Environment Foundation: <http://www2.fema.mt.gov.br/estrututra/imagem/asseda.png> .
8. Mato Grosso do Sul – Environmental Education Administration Unit of the Secretariat for the Environment: <http://www.sema.ms.gov.br/gea/aguape.php> .
9. Minas Gerais – State Environment Foundation – Environmental Education and Extension Advisory Unit: http://www.feam.br/Feam_Interativa/Educacao_Ambiental/educacao.htm .
10. Pará – Executive Secretariat for Science, Technology and Environment, Directorate of Environment, Environmental Education Program: www.sectam.pa.gov.br/educacaoambiental.htm .
11. Rio Grande do Norte – Environmental Education Program of the Institute for Economic Development and Environment: <http://www.rn.gov.br/secretarias/idema/educacao.asp> .
12. Rio Grande do Sul – State Secretariat for the Environment [SEMA – *Secretaria Estadual de Meio Ambiente*]: <http://www.sema.rs.gov.br/>
13. Santa Catarina – State Secretariat for Social and Urban Development and Environment, Directorate of Environment, Environmental Education Administration Unit [GEAMB – *Gerência de Educação Ambiental*]: <http://www.sds.sc.gov.br/diretorias/dima/geamb.htm> .
14. São Paulo – Department of Environmental Education [DEA – *Departamento de Educação Ambiental*]: <http://www.ambiente.sp.gov.br/EA/index.htm> .
15. Sergipe – Environmental Education Coordination of the State Secretariat for the Environment: <http://www.sema.se.gov.br/> .
16. Tocantins – Naturantins Institute – Coordination for Environmental Education Support: <http://www2.naturantins.to.gov.br/estrutura/organograma.gif> .

Tocantins State Environmental Education Program. This program initiated in 2002, is still in progress, and has the following purposes:

- To coordinate the elaboration of environmental education policies, plans and programs;
- To develop and propose environmental education actions for the formal and informal communication sector;
- To promote the coordination among institutions and municipalities for the implementation of environmental education plans, programs and projects.

Information at http://www.seplan.to.gov.br/dma/educacao/educ_amb_apres.htm .

Itinerant Environmental School. This program is conducted by the municipal government of Manaus (AM), and consists of two buses with air conditioning, equipped with video recorder and microphone, and counting with trained instructors. The buses travel around several routes, addressing themes such as: trash; water pollution; specially protected areas; risk areas; conservation units; water and sewage treatment plants; production of seedlings; and historical locations. Launched during the Environment Week of June 2001, the buses travelled their inaugural route on July 04 and since then have accumulated, until June 2003, a total of 23,817 participants, among students, church groups, senior citizens, non-governmental organizations, and community associations. The Program was made possible by the support

provided by Petrobras, Vemaqa, Prodemaph, and Ipaam, and today it is maintained exclusively by the Manaus municipal government.

http://www.pmm.am.gov.br/meio_ambiente/estrategia_ambiental.htm .

Environmental Education at the Pontal do Paranapanema. Conducted by the Ecological Research Institute [IPÊ – *Instituto de Pesquisas Ecológicas*], the project has the objective of obtaining, through education, the involvement of the community in biodiversity conservation. In that region, Environmental Education has been an effective strategy to integrate different actors into the mobilization for the conservation of local socio-environmental resources. Environmental Education is currently one of the key elements of the IPÊ Conservation Model. In Teodoro Sampaio, the environmental education work is continuous, and includes a series of activities to involve the community in the conservation of the Black Lion Tamarin and other animal and plant species. Between 2000 and 2003, over 37,000 people participated in the environmental education activities conducted by IPÊ. In 2003, over 1,350 people became involved in education activities, seeking “A Pontal Good for Everyone”, title of the environmental education program conducted by IPÊ in Pontal. The participants came from the entire school community; local communities, especially those from the rural settlements around the State Parks and forest fragments; public and private agencies and institutions, and municipal stakeholders. Additional information at http://www.ipe.org.br/new_ipe/html/programas_pontal_educ_ambiental.htm .

Environmental Education at Conservation Units in Rio Grande do Sul. The program is developed and funded by the state government of Rio Grande do Sul, with the purpose of developing environmental education programs at the 21 state conservation units, and to create awareness among the visitors and among the population living around the protected areas, concerning the importance of conserving biodiversity in conservation units. Additional information at www.sema.rs.gov.br .

Environmental Education Multipliers in the Rio Meia Ponte Watershed Project. This project is being developed by the Goiás State Superintendence of Environmental Management and Protection, through the Environmental Education Administration Unit. Its main objective is to contribute to the training of teachers, who will become local multiplying agents through schools, having the Environment as main focus or encompassing theme. The project initiated in 2004, and is funded by the State Environment Fund [FEMA/GO – *Fundo Estadual de Meio Ambiente/Goiás*]. The project has been operational for six months, and is waiting for education material to be printed. Additional information at www.semarh.goias.gov.br .

Education and Mobilization Program of the O Boticário Foundation for Nature Protection. The O Boticário Foundation sought the necessary conditions to mobilize society, with the purpose of disseminating knowledge, values and attitudes for nature conservation. The Education and Mobilization Program uses various resources to reach, sensitize and mobilize the greatest number of people, from the various social segments, for nature protection.

1) Building Capacity for Biodiversity Conservation

The O Boticário Foundation for Nature Protection conducts several courses, workshops and other conservation activities. The objective is to improve the technical level of professionals acting in the management of protected areas, and to increase the insertion of conservation themes into the academic sector and into

other strategic audiences.

2) Publications

The O Boticário Foundation publishes books, leaflets and other materials to publicise and disseminate nature conservation reasoning and practices. The printed materials are produced through an operating agreement with the Publisher of the Paraná Federal University. In addition, the Foundation supports the printing of materials produced by third-parties, and may also act as publisher.

The technical series Conservation Notebooks and the journal Nature & Conservation are other publications developed by the Foundation. The journal Nature & Conservation is the first completely bilingual Brazilian publication on nature conservation, and is distributed to over 600 research and nature protection institutions at 45 countries.

<http://www.fundacaoboticario.org.br/site/br/educacao/introducao.htm> .

Nature Station Program. Executed by the O Boticário Foundation for Nature Protection, this program consists of an interactive exhibit on Brazilian nature. The visitor is introduced to the Brazilian biomes (Atlantic Forest, Caatinga, Forest with Araucaria and Uruguayan Savannas, Amazon Forest, Pantanal, Cerrado, and Coastal Ecosystems) through informative panels, totems, toys, settings, models, and other attractions. The Nature Station combines culture, entertainment, and social mobilization, to disseminate values and to awaken society to the importance of nature conservation.

Part of the project to expand the successful initiatives conducted by the O Boticário Foundation includes the establishment of one Nature Station at each Brazilian region. The second Nature Station is installed in the city of Corumbá, state of Mato Grosso do Sul. Located in a border region, this unit should receive Brazilian and Bolivian audiences, in addition to a variety of visitors from other regions of the world who travel to the area. The Foundation is coordinating with other partners to establish new Nature Stations in other Brazilian regions. The exhibit is installed at Shopping Centers and schools.

Biomes Project. Developed by the O Boticário Foundation for Nature protection, this project has the objective of disseminating conservation knowledge and values at schools. With the support of seven booklets and one videotape containing information on Brazilian biomes, the environmental issues are discussed with teachers of all education levels. In 2004, the project was present at 108 schools, training 185 educators. Since its creation in 2001, the materials produced by the Biomes project were distributed to over 2,900 teachers. <http://www.fundacaoboticario.org.br/site/br/educacao/colecao.htm> .

Environmental Trainee Program. Developed by the O Boticário Foundation for Nature Protection, this program focuses on training professionals, preparing them to work for environmental conservation. The program offers training courses for young professionals working with conservation organizations throughout the country. The program initiated in 2004, with 700 enrolled people, of which 22 were selected. Information at http://www.fundacaoboticario.org.br/site/br/educacao/programa_trainee.htm .

Environmental Education Program at Conservation Units in the State of Bahia. This is a program of the Bahia State Secretariat for the Environment and Hydrological Resources, with the objective of obtaining social mobilization at state conservation units, to constitute their management councils. Parallel to the mobilization activities, specific training is offered for council members, including communication plan-

ning, environmental education, and applicable notions of local management plans.

95. Is your country supporting national, regional and international activities prioritized by the Global Initiative on Education and Public Awareness? (decision VI/19)

- | | |
|--|---|
| a) No | |
| b) No, but some programmes are under development | |
| c) Yes, some activities supported (please provide details below) | X |
| d) Yes, many activities supported (please provide details below) | |

Further comments on the support of national, regional and international activities prioritized by the Global Initiative on Education and Public Awareness.

See comments in the other questions in this Article.

96. Has your country developed adequate capacity to deliver initiatives on communication, education and public awareness?

- | | |
|---|---|
| a) No | |
| b) No, but some programmes are under development | |
| c) Yes, some programmes are being implemented (please provide details below) | X |
| d) Yes, comprehensive programmes are being implemented (please provide details below) | |

Further comments on the development of adequate capacity to deliver initiatives on communication, education and public awareness.

Environmental Educators Training Program. This program is conducted by the Directorate of Environmental Education of the Ministry of the Environment [DEA/MMA – *Diretoria de Educação Ambiental/Ministério do Meio Ambiente*], and has the following objectives: establishing partnerships; socialization; appropriation and contextualized detailing of the proposal; Environmental Educators training processes; creation of an Observatory of Environmental Educators Training Processes, capable of coordinating and continuously feeding the training processes. Additional information available at www.mma.gov.br/educambiental.

Environmental Agenda in the Public Administration Program (A3P). The government is a major consumer of natural resources, goods and services, at its middle and end activities, which often causes negative socio-environmental impacts. The Environmental Agenda in the Public Administration (A3P) was proposed in 1999 by the Ministry of the Environment, responding to the ascertainment that the federal government possesses an exemplary role in the revision of consumption standards, and in the adoption of new references in the quest for socio-environmental sustainability. In this sense, the A3P is a strategy to construct a new institutional culture, in which socio-environmental criteria will be inserted into all levels of

public administration. Governmental employees play a fundamental role in the construction of this new institutional culture, in which the internalization of socio-environmental criteria goes from revising government investments, acquisitions and service contracts, to the adequate management of all residues generated by administrative and operational activities, and includes combating all forms of waste and improving life quality at work. The thematic axes of the program are: Rational Resource Use; Life Quality at Work; Integrated Residue Management; and Sustainable Bidding. Additional information at http://www.mma.gov.br/index.cmf?id_estrutura=36&id_conteudo=1943 .

V Brazilian Environmental Education Forum. Conducted from 03 to 06 November 2004 in Goiânia (GO), the Forum was organized by the Brazilian Environmental Education Network with support from the Ministry of the Environment, Ministry of Education, state government of Goiás, and municipal government of Goiânia. The event had over 3,200 participants. Additional information at www.rebea.org.br .

97. Does your country promote cooperation and exchange programmes for biodiversity education and awareness at the national, regional and international levels? (decisions IV /10 and VI/19)

a) No

b) Yes (please provide details below)

X

Further comments on the promotion of cooperation and exchange programmes for biodiversity education and awareness, at the national, regional and international levels.

Latin-American and Caribbean Environmental Education Program [PLACEA – *Programa Latino-Americano e Caribenho de Educação Ambiental*]. The PLACEA intends to create, strengthen and consolidate a regional cooperation mechanism on environmental education. The program represents a strategic opportunity for the regional integration of the environmental education actions developed in Latin America and the Caribbean. This initiative expects to establish a permanent regional mechanism, which can provide impulse to the coordination of policies, stimulate the development of programs and projects, support communication, promote interchange and mutual support among regional governments, as well as among regional governments and other social actors involved with the development of environmental education programs. To achieve these goals, five specific objectives were selected:

- To consolidate public policies on environmental education aiming at sustainable development;
- To establish and consolidate mechanisms for working in a network, promoting integration and increasing communication among regional public and private agencies;
- To strengthen the conceptual and methodological aspects of environmental education, aiming at sustainable regional development;
- To strengthen the continuous training and updating of educators and other actors involved in the regional environmental education processes; and
- To provide impulse to the development of funding and implementation mechanisms for the development of the agreement.

Additional information at <http://www.mma.gov.br/port/sdi/ea/placea/index.htm> .

Brazilian Environmental Education Network [REBEA – Rede Brasileira de Educação Ambiental]. This Network originated from the Environmental Education Fora promoted in São Paulo in the 1990's, by a coordination of NGOs, universities and governmental agencies. This is one of the oldest networks in the country. REBEA activities have focused on coordinating the state and thematic networks, to create a wide national net of environmental educators. REBEA has the mission to promote a wide debate on the courses of action for environmental education in Brazil, indicating priorities, methods, techniques, target audiences, and strategies to strengthen environmental educator action. The following networks participate in REBEA:

- RUPEA – University Network of Environmental Education Programs for Sustainable Societies
- RMEA – Minas Gerais Environmental Education Network
- REPEA – São Paulo Environmental Education Network
- REMTEA – Mato Grosso Environmental Education Network
- REJUMA – Youth Network for Sustainability
- São Carlos Environmental Education Network
- REDE CEAS – Environmental Education Centers Network
- RECEA – Espírito Santo Environmental Education Network
- REASul – South-Brazilian Environmental Education Network
- REASE – Sergipe Environmental Education Network
- REARJ – Rio de Janeiro Environmental Education Network
- REABRI – Itajaí Watershed Environmental Education Network
- REABA – Bahia Environmental Education Network
- REA/PR – Paraná Environmental Education Network
- REA/PB – Paraíba Environmental Education Network
- RAEA – Acre Environmental Education Network
- AGUAPÉ – Pantanal Environmental Education Network

Additional information at www.rebea.org.br .

98. Is your country undertaking some CEPA activities for implementation of cross-cutting issues and thematic programmes of work adopted under the Convention?

a) No (please specify reasons below)	
b) Yes, some activities undertaken for some issues and thematic areas (please provide details below)	X
c) Yes, many activities undertaken for most issues and thematic areas (please provide details below)	
d) Yes, comprehensive activities undertaken for all issues and thematic areas (please provide details below)	

Further comments on the CEPA activities for implementation of cross-cutting issues and thematic

programmes of work adopted under the Convention.

Pantanal Environmental Education Network (AGUAPÉ NETWORK): The “Structuring of the Pantanal Environmental Education Network Project” was one of the five projects approved by Public Notice nº 07/2001 of the National Environmental Fund. To create, strengthen and make operational the first multi-institution environmental education network of the Pantanal, the Aguapé Network proposes to conduct a series of creative actions at 10 Pantanal municipalities: Poconé (MT), Santo Antônio do Leverger (MT), Cáceres (MT), Cuiabá (MT), Coxim (MS), Corumbá (MS), Porto Murtinho (MS), Aquidauana (MS), Jardim (MS), and Campo Grande (MS). For a period of 18 months, the Aguapé Network will provide training to build the capacity of environmental education multiplying agents, and training on how to work on a network, at these municipality centers. The Network will also provide information and news produced by agencies that prize information quality and democratization through several communication means, as well as facilitation and coordination activities, and will conduct the first environmental education assessment of the Pantanal cities. From the total budget available to the project, a portion comes from the National Environment Fund/Ministry of the Environment, and part comprises matching funds from partner entities. Additional information at www.redeaguape.org.br .

Educated Project – Cooperative Learning Environments for Environmental Education at Coastal Areas Using Web Support. The project has the purpose of continuously training primary and secondary education teachers through the insertion of the environmental dimension into the school curriculum, using the Information and Communication Technologies [TICs – *Tecnologias de Informação e Comunicação*] tool. The project conducts courses, presentations, field trips, workshops, game activities, and environmental perception activities. Information at <http://www.cehcom.univali.br/educado/> .

Conscious Conduct at Reef Environments. The Directorate of Protected Areas [DAP – *Diretoria de Áreas Protegidas*] of the Ministry of the Environment [MMA – *Ministério do Meio Ambiente*] launched the Campaign for Conscious Conduct at Reef Environments, developed in partnership with the Coastal Reefs Project (IDB/UFPE/IBAMA/FMM), with support from the National Environmental Education Program [PNEA – *Programa Nacional de Educação Ambiental*] and IBAMA. This initiative is part of the Campaign for Conscious Conduct at Natural Environments, promoted by MMA, which has the objective of providing clarification to visitors and other users of protected areas. In Brazil, the Campaign aims at adapting minimum impact practices currently applied by several countries, to local protected areas. The income provided by protected area visitors has been seen as the major option for the self-sustainability of these areas. However, if visitor activities are not organized nor instructed, they may constitute a serious threat to the protection and conservation of local biodiversity. The campaign is being developed at 10 environmental protection areas, and generated the following products:

- Informative poster, produced with waterproof materials, to be posted specially on boats taking tourists to conservation units located at reef environments;
- Booklet containing detailed information, to be distributed at schools, tourism agencies, municipal agencies, and other appropriate localities;
- Folder printed on waterproof materials, to be distributed to divers and other visitors.

The Coastal and Marine Zone Nucleus has recently signed a partnership agreement with the National Fish and Wildlife Foundation (NFWF-US) to allow the continuity of the campaign. The project, approved by the

Coral Reefs Conservation Fund, was granted US\$ 36,000. The following are among the activities planned for the campaign: (1) elaboration of an education videotape containing the same guidelines of the printed materials, and based on the campaign identity; (2) second edition of the materials printed during the first phase, and adding the production of adhesives, caps and banners, to be distributed at community centers, visitor centers at protected areas, schools, etc.; (3) elaboration and implementation of a training program, to be developed in collaboration with local partners, directed at protected area managers, tourism agents, teachers, and volunteers, at three localities: Maracajaú Beach – RN (Coral Reefs State Environmental Protected Area), Porto Seguro – BA, and the region of Porto de Galinhas Beach – PE.

The second edition of the coral reefs Atlas is currently being prepared, revised and extended, with the addition of 20 maps of the areas in between Conservation Units, a chapter on the representativeness of Conservation Units, and a chapter of the Living Coral Project.

Additional information at <http://www.mma.gov.br/port/sbf/dap/compcor.html> .

Bill Hamilton Itinerant Environmental and Scientific Education Center [CIEAC – Centro Itinerante de Educação Ambiental e Científica Bill Hamilton]. This center consists of a floating mobile structure designed to conduct education activities directed at children, youth and adults, concerning the sustainable use of natural resources at the areas of the Mamirauá and Amanã Sustainable Development Reserves. The 476-square-meter structure is equipped with a roomy classroom for multiple uses, a laboratory, a library and an audio-visual classroom, in addition to dormitories to house up to 40 students. The structure uses a hybrid energy system (solar and thermo-diesel) for lights, computer equipment, and for the water provisioning and treatment system, and also possesses adequate sanitary infrastructure for flooded areas. Its mobility allows the structure to travel to any part of the reserves, increasing the target audience and providing variety according to the annual program. The series of planned activities involve the riverside and urban communities, and professionals from multidisciplinary fields, and apply a variety of resources, specially the education through arts, directed to the dissemination of scientific and technological knowledge on the biodiversity and ecosystems of flooded forests, and on the sustainable use of regional natural resources. The total population benefited by the program amounts to approximately 5,000 people, distributed through five nuclei around the forest. This entire participating population is directly or indirectly engaged in activities of the conservation and natural resource management projects, such as handcraft production, and subsistence fishing and agriculture. Additional information at www.mamiraua.org.br .

99. Does your country support initiatives by major groups, key actors and stakeholders that integrate biological diversity conservation matters in their practice and education programmes as well as into their relevant sectoral and cross-sectoral plans, programmes and policies? (decision IV/10 and Goal 4.4 of the Strategic Plan)

a) No	
b) Yes (please provide details below)	X

Further comments on the initiatives by major groups, key actors and stakeholders that integrate biodiversity conservation in their practice and education programmes as well as their relevant sectoral and cross-sectoral plans, programmes and policies.

See comments in the other questions in this Article.

100. Is your country communicating the various elements of the 2010 biodiversity target and establishing appropriate linkages to the Decade on Education for Sustainable Development in the implementation of your national CEPA programmes and activities? (decision VII/24)

- | | |
|---|---|
| a) No | X |
| b) No, but some programmes are under development | |
| c) Yes, some programmes developed and activities undertaken for this purpose (please provide details below) | |
| d) Yes, comprehensive programmes developed and many activities undertaken for this purpose (please provide details below) | |

Further comments on the communication of the various elements of the 2010 biodiversity target and the establishment of linkages to the Decade on Education for Sustainable Development.

The **UN Decade of Education for Sustainable Development** should be established in Brazil by UNESCO. Information at www.unesco.org and www.mma.gov.br/educambiental .

Box XII.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- outcomes and impacts of actions taken;
- contribution to the achievement of the goals of the Strategic Plan of the Convention;
- contribution to progress towards the 2010 target;
- progress in implementing national biodiversity strategies and action plans;
- contribution to the achievement of the Millennium Development Goals;
- constraints encountered in implementation.

- Among the actions taken, the decentralization of environmental education actions is a highlight. Almost all Brazilian states possess environmental education agencies or permanent programs, which demonstrate their intention to undertake this responsibility. The decentralized actions coordinated by the National Environmental Education Policy present greater effectiveness, since they reflect local characteristics of the target audiences. Another significant impact achieved was the creation of the environmental education networks.
- The initiatives contribute towards achieving Objective 4 of the CBD Strategic Plan (*better understanding of the importance of biodiversity and of the Convention, and this has led to broader engagement across society in implementation*).
- The mentioned initiatives do not directly contribute towards the CBD 2010 Goals. Nevertheless, it should be considered that this type of goal can not be achieved without adequate public education and information, and with this objective many environmental education actions are being developed around the country. It should be noted that the next

junior-youth environmental Conference will have the CBD as theme of one of its work groups (see information in Question 91).

- d) The mentioned initiative directly contribute to the implementation of Component 6 of the National Biodiversity Policy, which concerns public education and awareness building, the management and dissemination of information on biodiversity, and promoting social participation, including the participation of traditional groups (indigenous, quilombolas, and other local communities), in biodiversity conservation and in the sustainable use of biodiversity components, as well as in the just and equitable distribution of benefits derived from the use of genetic resources, components of genetic resources, and of traditional knowledge associated to biodiversity.
- e) The mentioned initiatives directly contribute towards achieving Goal 9 of Objective 7 of the MDGs.
- f) The major constraint to implementation is poverty. In addition to poverty (lack of financial resources), other difficulties present obstacles to environmental education actions, such as:
 - Coordination difficulties among the public sector and various other sectors;
 - Lack of investments in environmental education, since this is often not considered an important subject to universities, private and public sectors, etc.;
 - Lack of dissemination of environmental education initiatives through mass media;
 - Difficulties in promoting the importance of small local actions and voluntary work in environmental education; and
 - Other constraints concerning local context.

Article 14 - Impact assessment and minimizing adverse impacts

101. On Article 14.1(a), has your country developed legislation requiring an environmental impact assessment of proposed projects likely to have adverse effects on biological diversity?

- | | |
|---|---|
| a) No | |
| b) No, legislation is still in early stages of development | |
| c) No, but legislation is in advanced stages of development | |
| d) Yes, legislation is in place (please provide details below) | X |
| e) Yes, review of implementation available (please provide details below) | |

Further information on the legislation requiring EIA of proposed projects likely to have adverse effects on biodiversity.

Regulation of the National Environmental Policy - Law n° 6938: Resolution n° 001/86 from the National Environment Council (CONAMA – *Conselho Nacional de Meio Ambiente*) instituted the requirement, for activities that affect the environment, of presenting environmental impact reports [RIMA – *Relatório de Impacto Ambiental*] and the respective environmental impact study [EIA – *Estudo de Impacto Ambiental*], with the conduction of public hearings. CONAMA Resolution n° 305/2002 concerns the conduction of environmental impact studies for activities involving transgenic organisms, and Resolution n° 237/97 regulates those environmental licensing aspects established by the National Environmental Policy. Additional information at www.mma.gov.br/conama .

Biosafety Law – Law n° 11105 of 24 March 2005 establishes safety rules and enforcement mechanisms for activities involving the construction, cultivation, production, manipulation, transport, transfer, import, export, storage, research, commercialization, consumption, release in the environment, and disposal of genetically modified organisms (GMO) and their sub-products; creates the National Biosafety Council (CNBS – *Conselho Nacional de Biossegurança*); re-structures the National Biosafety Technical Commission (CNTBio – *Comissão Técnica Nacional de Biossegurança*), and rules on the National Biodiversity Policy [PNB – *Política Nacional de Biodiversidade*]. This law has as directives the incentive to scientific progress in biosafety and biotechnology; the protection of life and human, animal and plant health; and the compliance with the precaution principle for environmental protection. Additional information at <http://www2.camara.gov.br/proposicoes> .

The following states possess systems and state legislation on **environmental licensing**: Paraná (already structured), Bahia and Goiás (currently being structured).

Public Notice CT-Petro/MCT/CNPq no 040/2004: Public selection of projects on scientific, technological, and innovation research, to identify and define the location and limits of the areas which are ecologically sensitive to pollution caused by oil spills on the coastal and marine zone, within the Brazilian jurisdictional waters. This work should include the elaboration of Charts of Areas Environmentally Sensitive to Oil Spills (SAO Charts – *Sensibilidade Ambiental para Derramamento de Óleo*) of the Coastal and Marine Zone, which involves three charting levels – strategic, tactical and operational – to predict responses to all types of oil and oil sub-product spills, from large-scale leaks at offshore areas to medium-size spills at some distance form the oil industry infrastructure along the coast, to localized incidents at specific locations along the coast.

DETER – Real-Time Deforestation Detection [*Detecção do Desmatamento em Tempo Real*] – **INPE/MCT**. DETER is an INPE/MCT project with support from MMA and IBAMA, and is part of the Federal

Government Amazon Deforestation Combat Plan. The DETER system uses sensors with high observation frequency to reduce limitations imposed by cloud cover: (a) the MODIS sensor aboard TERRA and ACQUA satellites (NASA), with spatial resolution of 250 m and Brazil cover frequency of 3 to 5 days; (b) the WFI sensor aboard CBERS-2, with spatial resolution of 260 m and Brazil cover frequency of 5 days. Even with the reduced spatial resolution of MODIS and WFI, it is possible to detect recent deforestation events in areas greater than 0.25 km². The spatial resolution deficiencies are compensated by the greater observation frequency. This allows DETER to provide periodic information on deforestation events to environmental control agencies, so that the government may apply contention measures. Since the system produces information in "almost real" time on the regions where new deforestation events are occurring, the Brazilian society now possesses an innovative tool to support land management in the Amazon.

102. On Article 14.1(b), has your country developed mechanisms to ensure that due consideration is given to the environmental consequences of national programmes and policies that are likely to have significant adverse impacts on biological diversity?

a) No	
b) No, mechanisms are still in early stages of development	X
c) No, but mechanisms are in advanced stages of development	
d) Yes, mechanisms are in place (please provide details below)	

Further comments on the mechanisms developed to ensure that due consideration is given to the environmental consequences of national programmes and policies that are likely to have significant adverse impacts on biodiversity.

See comments in Question 108.

103. On Article 14.1(c), is your country implementing bilateral, regional and/or multilateral agreements on activities likely to significantly affect biological diversity outside your country's jurisdiction?

a) No	
b) No, but assessment of options is in progress	
c) Yes, some completed, others in progress (please provide details below)	X
d) Yes (please provide details below)	

Further information on the bilateral, regional and/or multilateral agreements on activities likely to significantly affect biodiversity outside your country's jurisdiction.

See comments in Question 9. Brazil is a Mercosur member, and is also Party to the following agreements: Amazon Cooperation Treaty; UN Convention on the Law of the Sea; International Convention for the Conservation of Atlantic Tunas and Tuna-like Fishes (ICCAT); PROANTAR (Antarctic Treaty); Migratory birds; International Plant Protection Convention; Sanitary Agreements; IMO (ballast water); Stockholm Convention (Brazil assisted in the elaboration of the agreement, which is currently under the process of being ratified).

See comments in Question 105 (Integrated Environmental Assessment [AAI – *Avaliação Ambiental Integrada*] of the hydroelectric uses of the Uruguay river basin).

104. On Article 14.1(d), has your country put mechanisms in place to prevent or minimize danger or damage originating in your territory to biological diversity in the territory of other Parties or in areas beyond the limits of national jurisdiction?

a) No	X
b) No, mechanisms are still in early stages of development	
c) No, but mechanisms are in advanced stages of development	
d) Yes, mechanisms are in place based on current scientific knowledge	

105. On Article 14.1(e), has your country established national mechanisms for emergency response to activities or events which present a grave and imminent danger to biological diversity?

a) No	
b) No, mechanisms are still in early stages of development	X
c) No, but mechanisms are in advanced stages of development	
d) Yes, mechanisms are in place (please provide details below)	

Further information on national mechanisms for emergency response to the activities or events which present a grave and imminent danger to biodiversity.

Environmental Emergency Prevention and Combat. This is a program of the Federal Government Pluri-annual Plan for 2004-2007, with the objective of preventing environmental risks and combating environmental emergencies.

Fire in the Amazon. The PREVFOGO and PROARCO programs possess alert systems for fire in the Amazon region (see comments in Question 71). The National Space Research Institute (INPE – *Instituto Nacional de Pesquisa Espacial*) displays LANDSAT images for constant online fire monitoring, which are updated six times per day (<http://www.dpi.inpe.br/proarco/bdqueimadas>).

IBAMA is developing a macro-monitoring system for those areas which suffer constant illegal fire and deforestation threats (<http://www.ibama.gov.br/fiscalizacao/home.htm>).

CONAMA Resolution n° 293, of 12 December 2001. This Resolution rules on the minimum content of Individual Emergency Plans for incidents involving oil pollution originated from ports, port infrastructure, cargo terminals, ducts, platforms, or from their respective supporting infrastructure, and guides the Plan elaboration. <http://www.mma.gov.br/port/conama/res/res01/res29301.html> .

Sustainable Development Plan for the Area Influenced by Highway BR-163. The Sustainable BR-163 Plan is being collaboratively elaborated by: the state governments of Mato Grosso, Pará and Amazonas; municipal governments; business and workers entities; and civil society organizations. The objective is to elaborate and implement a sustainable development plan based on a series of structuring

public policies, highlighting the paving of BR-163, and seeking social inclusion and conservation of natural resources. The Cuiabá-Santarém Highway (BR-163) crosses one of the Amazon regions with the greatest economic potential, social and biological diversity, and natural richness. This region contains portions of the Cerrado and Amazon forest biomes, a vast biodiversity stock, and three immense watersheds (Teles Pires/Tapajós, Xingu, and Amazonas). Three basic lines of action comprise the implementation strategy for this plan: i) the regionalization of the area, differentiating sub-regions according to their essential characteristics, which result in different priorities; ii) the organization of state and civil society actions along 5 thematic axes: environmental management and territorial planning and regularization; sustainable production with competitiveness and innovation; social inclusion and citizenship; development infrastructure; and new financing standards; iii) an implementation strategy which seeks to mobilize civil society, reduce the degree of conflict among social sectors, and promote consensus which may translate into legitimate and participatory public policies. Additional information at <http://www.mma.gov.br/port/sbf/br163.pdf>.

Integrated Environmental Assessment (AAI – Avaliação Ambiental Integrada) of the hydroelectric uses of the Uruguay river watershed. Responding to the increasing demand for new ventures and considering that the inventory conducted within the Brazilian watersheds have mainly focused the optimization of energy production, many ventures were bid before obtaining their environmental license. Since some of these ventures present high environmental impact potential, some difficulties were encountered to harmonize energy interests with environmental conservation. Based on the principles listed below, the AAI studies seek to reduce these problems in view of the new policy to integrate the energy sector planning. The objective of the AAI is to assess the environmental situation of the Uruguai river watershed with the implementation of the hydroelectric ventures and potential dams, considering: (i) their cumulative and synergetic effects; and (ii) the potential uses under the current and future planning scenarios, taking into account the socio-economic development trends of the watershed. The AAI should comply with the following principles:

- Integrating approaches of the environmental impacts that the introduction of new hydroelectric ventures may cause on the watershed, considering all other uses;
- Development of procedures to ensure the effective public participation;
- The development of knowledge for a better integrated management of the hydrological and environmental resources in the watershed, emphasizing hydroelectricity.

The activities to be developed are: characterization; distributed environmental assessment; conflict identification; integrated environmental assessment; promotion of public participation; and presentation of results. Additional information at <http://www.mma.gov.br/port/sbf/br163.pdf>.

Prevention and Response Program for Accidents with Hazardous Cargo. Implemented by the Environment Foundation (FATMA – *Fundação do Meio Ambiente*), in collaboration with the Emergency Personnel of Santa Catarina state, this program supervises the transportation of toxic cargo through the state, responds to accidents involving this type of cargo with a specialized technical team, avoiding greater damage to the environment and affected communities, and also qualifies conductors on the safe transport of hazardous cargo and on the appropriate procedures in case of an accident. The state government established the PARE (On Duty Team for Ecological Accidents and Complaints – *Plantão de Acidentes e Reclamações Ecológicas*), which operates 24 hours per day, every day. To avoid accidents, FATMA inspects the transport and qualifies conductors to drive vehicles carrying hazardous cargo. Additional information at <http://www.fatma.sc.gov.br/instituc>.

Marine Oil Spills Modeling. This study is conducted by the National Oil Agency, and concerns the directives to present the hydrodynamic modeling of marine oil spills in the context of environmental licensing of oil activities, considering from the subject's state of the art to its practical application using the current model, including the recommendations to its improvement. On 23 August 2002, an internal work meeting was conducted by ELPN/IBAMA on the marine oil spills modeling. The meeting counted with the participation of representatives of governmental research institutions, and involved the discussion of the items presented in this Technical Information. The oil spill modeling defines the Area of Indirect Influence of the Activity, on which all environmental assessment is based, and also defines scenarios using simulations, which allow the elaboration of appropriate strategies to respond to emergencies/accidents involving marine oil spills, in the context of the Individual Emergency Plan. It is therefore a fundamental tool for the elaboration of the environmental study and management of the oil exploitation and production activities. This information reproduces a preliminary initiative to develop the internal policies and procedures for ELPN/IBAMA, which will comprise the technical base on which to develop the rules for issuing environmental licenses for the oil sector in Brazil. The production activity also involves the modeling of other effluents, such as production waste water, which will not be discussed in this technical information.

Maintenance of the Civil Fire Brigades to fight Rural and Forest Fires in Tocantins State. The program was implemented by the Tocantins Nature Institute (Naturantins – *Instituto Natureza do Tocantins*) from 2000 to 2004. The activities involved monitoring hot spots through NOAA 12 satellite data, elaborating booklets and folders, creating 33 municipal civil fire brigades and one private fire brigade, with the objective of reducing the number of hot spots in the state and to minimize fire impacts on the environment and on human health. The program achieved the following main results:

- Creation of new fire brigades;
- Strengthening and revitalization of existing fire brigades;
- Production of folders and posters;
- Conduction of educative campaigns, with the distribution of folders and posters;
- Acquisition of fire combat equipment for the fire brigades;
- Hiring of the NGO Friends of the Earth – Brazilian Amazon (*Amigos da Terra – Amazônia Brasileira*) to conduct a methodology course and to implement municipal protocols for controlled burning;
- Maintenance of the GREEN LINE service (a phone line to receive public complaints).

Additional information at www.naturantins.to.gov.br .

Federal District Forest Fire Prevention and Combat Plan. Executed by the Federal District Secretariat of Environment and Hydrological Resources, the plan conducts the following actions:

- Coordination with the Federal District Department of Roads and Traffic (DER – *Departamento de Estradas e Rodagem*) for the maintenance of firebreaks at priority areas, in agreement with Decree nº 17431, of June 1996;
- Implementation of the Technical Cooperation Term signed between SEMARH and the Military Fire Department of the Federal District;
- Monitor the FUNAM Project [Federal District Unified Environment Fund – *Fundo Único do Meio Ambiente do Distrito Federal*], implemented by the Military Fire Department of the Federal District;

- Monitor the IDB Project “Capacity Building of Voluntary Fire Brigades at Conservation Units”;
- Promote meetings with the Executing Committee of the Forest Fire Prevention and Combat Plan;
- Conduction of the VII Forum on Forest Fire Prevention and Combat in the Federal District, promoted by SEMARH.

Agreement SMA/IF/FF – DNIT [National Department of Transportation Infrastructure – Departamento Nacional de Infra-estrutura de Transportes]. This is an agreement between the federal government, through DNIT, and São Paulo state, through the Secretariat for the Environment / Forestry Institute and the São Paulo State Foundation for Forest Conservation and Forestry Production, to transfer financial resources for the implementation of those measures approved at the CONSEMA Deliberation nº 034/91. These measures concern the implementation of conservation units within the area influenced by Régis Bittencourt Highway (BR-116), as an environmental compensation for the duplication, restoration and improvements conducted on the highway. Start date: 28 June 2001; end date: 4 years after the agreement was signed, and postponed until 28 June 2006, according to the third Additive Term. The resources transferred from DNIT to SMAIF should be applied in: the implementation of the Jacupiranga, Jurupará, and Serra do Mar State Parks (South Sector); implementation of Carlos Botelho, Turístico do Alto Ribeira, and Intervalos State Parks; and implementation of the Juréia-Itatins Ecological Station; as well as in the planning and management activities of the listed Conservation Units. Priority should be given to: the elaboration of Management Plans for the listed Conservation Units; provide incentives to sustainable development; and to the geo-referenced monitoring of the vegetation cover in the project area.

106. Is your country applying the Guidelines for Incorporating Biodiversity-related Issues into Environment-Impact-Assessment Legislation or Processes and in Strategic Impact Assessment as contained in the annex to decision VI/7 in the context of the implementation of paragraph 1 of Article 14? (decision VI/7)

a) No	
b) No, but application of the guidelines under consideration	X
c) Yes, some aspects being applied (please specify below)	
d) Yes, major aspects being applied (please specify below)	

Further comments on application of the guidelines.

CONAMA Resolution 001/86: defines that the environmental impact study must develop at least the following technical activities:

I – Environmental diagnosis of the area influenced by the project, including the complete description and analysis of environmental resources and their interactions, such as they exist, to characterize the area’s environmental status before project implementation, considering:

a) the physical environment – underground, water, air and climate, with special attention to mineral resources, topography, soil types and aptitudes, water bodies, hydrological regime, marine currents, atmospheric currents;

b) the biological environment and natural ecosystems – fauna and flora, with special attention to species which are indicators of environmental quality, species of scientific and economic value, rare and

endangered species, and permanent preservation areas;

c) the socio-economic environment – soil use and occupancy, water use, and socio-economy, with special attention to archeological, historical and cultural sites and monuments, any dependence relationship among the local communities and environmental resources, and the potential future use of these resources.

Source: <http://www.mma.gov.br/port/conama/res/res86/res0186.html> .

CONAMA Resolution nº 237: see question 47.

Biosafety Law: see question 101.

107. On Article 14 (2), has your country put in place national legislative, administrative or policy measures regarding liability and redress for damage to biological diversity? (decision VI/11)

a) No	
b) Yes (please specify the measures)	X

Further comments on national legislative, administrative or policy measures regarding liability and redress for damage to biological diversity.

CONAMA Resolution nº 237: see question 47.

CONAMA Resolution nº 293: see comments in question 105.

108. Has your country put in place any measures to prevent damage to biological diversity?

a) No	
b) No, but some measures are being developed	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (
e) please provide details below)	

Further information on the measures in place to prevent damage to biological diversity.

Revitalization of Watersheds facing Environmental Vulnerability and Degradation. This is a program of the Federal Government Pluri-annual Plan (2004-2007), with the objective of revitalizing the São Francisco watershed and other watersheds facing environmental vulnerability, and promoting the prevention and abatement of potential impacts caused by the implementation of projects of national priority, or caused by growing and localized human action, which may lead to the environmental deterioration of these watersheds.

Combating Desertification. This is a program included in the Federal Government Pluri-annual Plan (2004-2007), with the objective of reducing the expansion of desert areas, or areas in the process of desertification.

Integrated Information for Amazon Protection. This is a program of the Federal Government Pluri-annual Plan (2004-2007), with the objective of contributing to the protection of the Brazilian Legal Amazon against pressures on the environment and illegal activities, through permanent monitoring.

Deforestation and Fire Prevention and Combat [Florescer – *Prevenção e Combate ao Desmatamento, Queimadas e Incêndios Florestais*]. This is a program of the Federal Government Pluri-annual Plan (2004-2007), with the objective of preventing and combating illegal deforestation, uncontrolled rural fires, and forest fires, at all Brazilian biomes.

Alternative Renewable Energy Program. This is a program of the Federal Government Pluri-annual Plan, with the objective of increasing the offer of energy provided by renewable, sustainable sources, minimizing environmental impacts. The program is implemented by the following institutions: Ministry of Mines and Energy; Brazilian Oil Company [*Petróleo Brasileiro S.A.*]; Alagoas Energy Company [*Companhia Energética de Alagoas*].

Agriculture Soil Management and Conservation Program. This is a program of the Federal Government Pluri-annual Plan (2004-2007), with the objective of ensuring adequate soil management and use, and to promote the restoration of degraded areas, in order to ensure sustainable food production and availability of quality water for human and animal consumption. The program is executed by EMBRAPA.

Program for the Maritime Transport of Oil and Oil Products. This is a program of the Federal Government Pluri-annual Plan, with the objective of reducing Brazilian dependence on hiring foreign vessels to freight oil and oil products, by making the necessary adjustments to the existing fleet to meet the new market and environmental demands. The program is executed by Petrobrás.

Forest Clearing Network [Rede Clareiras] – Assessment, prevention and restoration of environmental damage in natural gas and oil prospecting areas in the Brazilian Amazon. This initiative has the purpose of creating an organizational structure to allow the interchange of information, knowledge and staff, as well as for training, and for obtaining and disseminating new knowledge to identify, eliminate or minimize the negative effects of natural gas and oil prospecting activities on the environment in the Brazilian Amazon. This initiative is developed by Petrobrás, with support from CNPq and FINEP. The network includes six thematic projects:

- forest clearing dynamics under the impact of oil exploitation;
- models for assisted restoration of forest clearings;
- bio-remedial action and bio-degradation of oil and oil products;
- soil dynamics characterization and analysis;
- environmental sensitivity analysis, modeling and impact forecast;
- ecological and eco-toxicological assessment of the impacts caused by oil and oil product spills on the Amazon wildlife and vegetation.

Potential Impacts resulting from the Fluvial Transportation of Natural Gas and Oil in the Amazon [PIATAM – *Potenciais Impactos no Transporte Fluvial de Gás Natural e Petróleo na Amazônia*]. This is a multidisciplinary project which involves the integration of diverse areas such as: archeology, economy, sociology, ecology, entomology, ichthyology, botany, modeling and remote sensing. To comply with one of its main objectives, which is the environmental characterization of the areas where the oil and natural gas industry is present in the Amazon, PIATAM is collecting important data on Amazon

biodiversity. The main results of the project are:

- List of fish, insect and plant species of the lacustrine and riparian areas;
- Implementation of the PIATAM database at the Regional Surveillance Center.

Potential Environmental Impacts caused by the Transportation of Oil and Oil Products along the Amazon Coastal Zone (PIATAM MAR). This project has the purpose of assessing the impacts caused by the oil and natural gas industry along the coast of the Amazon region, which comprises the coastal lines of Amapá, Pará and Maranhão states. The project initiated in 2004 and should operate until 2006. The results already achieved were:

- Elaboration of a management model for the project;
- Inventory of the existing available environmental information, including data on the regional biodiversity;
- Development of a system to store the data obtained by the inventory;
- Elaboration of a methodology to conduct the integrated analysis of biotic, abiotic and socio-economic data;
- Production of preliminary maps of areas environmentally sensitive to oil spills;
- Establishment of conceptual bases for the elaboration of environmental sensitivity maps.

Amazon Protection System [SIPAM – *Sistema de Proteção da Amazônia*]. See comments in Question 20.

Protection of Water Collection Areas in the Federal District. The protection of water quality for provisioning is important to ensure the quality of the water distributed by CAESB, since the contamination of the untreated water with elements harmful to human health increases the cost of water treatment, and may even prevent its use. Since water is CAESB's raw material, the company is concerned with the preservation of the environment. The headwaters exploited by CAESB are protected from contamination by suspended particles, organic matter and toxic products. The areas to be protected for water collection were defined some time ago, and more recently, this protection was expanded by the transformation of these areas into Conservation Units. The following are the main actions which harm water quality at headwaters:

- Deforestation
- Land parceling
- Extractive activities, such as removal of soil, sand, rocks, etc.
- Trash and debris disposal
- Use of fire in production practices
- Inadequate drainage of rain water, causing erosion
- Illegal hunting and fishing
- Illegal soil occupancy
- Road construction without following adequate procedures

Fire-Stopping Project [*Projeto Corta-Fogo*]. The Fire-Stopping Project is developed by the Goiás Environmental Agency, and has the following main objectives: reducing fire occurrences in the state; creating voluntary fire brigades; and disseminating the basic legislation on the use of fire. The project establishes forest fire prevention and control actions in Goiás state, and involves the participation of several governmental and non-governmental agencies. In 2001, the Goiás Environmental Agency structured a control room for monitoring and combating forest fires, providing support to the technical staff of the Agency in the satellite monitoring of fire occurrences in the state, in partnership with IBAMA. The Agency distributed fire combat kits to 11 municipalities. According to the Fire Department, which is one of the project partners, 302 fire occurrences on vegetation were combated in the greater Goiânia region. In 2002, the highlights were: the creation and training of fire brigades in 40 municipalities distributed throughout the state; creation of fire brigades located close to State Parks; surveys and prevention activities conducted at critical portions of Conservation Units; technical visits to municipalities presenting the highest rates of fire occurrences in 2001 (Rio Verde, Jataí, Caiapônia, Mineiros, Cristalina, Luziânia, Padre Bernardo, Mimoso de Goiás, Niquelândia, Porangatu, São Miguel do Araguaia, Montividiu do Norte, Monte Alegre de Goiás, São Domingos, Iaciara, Flores de Goiás, and Vila Boa); creation of the State Forest Fire Prevention and Combat Committee (Decree 5481 of 25 September 2001).

Source:

<http://www.ambientebrasil.com.br/composer.php3?base=./estadual/index.html&conteudo=./estadual/go3.html>

Mato Grosso do Sul State Fire Prevention and Control Program. The state government created the Inter-institutional Forest Fire Prevention and Control Committee. The group is connected to the State Secretariat for the Environment, Culture and Tourism, and to the Brazilian Institute for the Environment and Renewable Natural Resources [IBAMA – *Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis*], and is composed by representatives of 10 entities. The mobilization for combating fire counts with the participation of rural producers and environmentalists who integrate fire brigades, as part of the actions included in the Forest Fire Prevention and Combat Program (Previ Fogo), and also creates Municipal Committees at all cities of Mato Grosso do Sul. The following are among the participating entities: Federal Highway Police, Emergency Personnel, Army, Air Base, Fire Department, and Military Environmental Police, in addition to local non-governmental organizations. Source: <http://www.ambientebrasil.com.br/composer.php3?base=./estadual/index.html&conteudo=./estadual/ms3.html>.

Erosion and Flood Control in the Federal District. This program is executed by the Secretariat for Infrastructure and Works of the Federal District, and conducts the following actions:

1. Monitoring of the environmental compliance of works;
2. Prevention of unnecessary environmental damage and correction of problems observed during the development of works.

Information at www.novacap.df.gov.br .

109. Is your country cooperating with other Parties to strengthen capacities at the national level for the prevention of damage to biodiversity, establishment and implementation of national legislative regimes, policy and administrative measures on liability and redress? (decision VI/11)

a) No	
b) No, but cooperation is under consideration	
c) No, but cooperative programmes are under development	
d) Yes, some cooperative activities being undertaken (please provide details below)	X
e) Yes, comprehensive cooperative activities being undertaken (please provide details below)	

Further comments on cooperation with other Parties to strengthen capacities for the prevention of damage to biodiversity.

See comments in Article 5.

Box XIII.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) The last few years saw the strengthening of fire monitoring systems in the Amazon, which allow rapid response to fire situations. Prevention and response systems for marine oil spills were also improved and strengthened. The existent environmental licensing system, however, still needs strengthening. The Sustainable Development Plan for the Area Influenced by BR-163 is a highlight.
- b) The mentioned initiatives do not directly contribute towards achieving the objectives of the CBD Strategic Plan.
- c) The mentioned initiatives significantly contribute towards achieving objective 5 of the CBD 2010 goals (Reduce the pressure of habitat loss, of changes in land use and degradation, and of unsustainable water use).
- d) The initiatives contribute to the implementation of Component 4 of the National Biodiversity Policy, which aims at strengthening the monitoring, evaluation, prevention and abatement systems for impacts on biodiversity, as well as at promoting the restoration of degraded ecosystems and overexploited biodiversity components.
- e) The mentioned initiatives contribute towards achieving Objective 7 of the MDGs (ensure environmental sustainability).

- f) Need for institutional strengthening; poverty; atypical climatic phenomena such as El Niño, which favor fire occurrences in the Amazon.

Article 15 - Access to genetic resources

110. Has your country endeavored to facilitate access to genetic resources for environmentally sound uses by other Parties, on the basis of prior informed consent and mutually agreed terms, in accordance with paragraphs 2, 4 and 5 of Article 15?

a) No	
b) Yes (please provide details below)	X

Further information on the efforts taken by your country to facilitate access to genetic resources for environmentally sound uses by other Parties, on the basis of prior informed consent and mutually agreed terms.

Decree n° 4339, of 22 August 2002: Institutes principles and directives for the implementation of the National Biodiversity Policy. Includes in component 5, directive 1: "Access to genetic resources and distribution of benefits derived from the use of genetic resources. Establishment of a controlled system of access and fair and equitable sharing of benefits originated from the use of genetic resources and components of the genetic heritage, which promotes the addition of value through scientific research and technological development, and which contributes to the conservation and sustainable use of biodiversity."

Provisional Measure n° 2186-16, of 23 August 2001: This Provisional Measure regulates Article 225 of the Federal Constitution and provisions of the Convention on Biological Diversity, and rules on the following themes: access to the genetic heritage that exists in the national territory, on the continental shelf and in the exclusive economic zone, with the purpose of scientific research; technological development or bioprospection; access and protection of associated traditional knowledge; fair and equitable sharing of benefits derived from the exploitation of the genetic heritage; and access and transfer of technology for the conservation and sustainable use of biological diversity.

Decree n° 3945, of 28 September 2001: Defines the composition of the Genetic Heritage Management Council and establishes the rules for its operation, through the regulation of Provisional Measure n° 2186-16/01.

111. Has your country taken measures to ensure that any scientific research based on genetic resources provided by other Parties is developed and carried out with the full participation of such Parties, in accordance with Article 15(6)?

a) No	X
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	
d) Yes, comprehensive measures are in place (please provide details below)	

Further information on the measures to ensure that any scientific research based on genetic resources provided by other Contracting Parties is developed and carried out with the full participation of such Contracting Parties.

112. Has your country taken measures to ensure the fair and equitable sharing of the results of research and development and of the benefits arising from the commercial and other use of genetic resources with any Contracting Party providing such resources, in accordance with Article 15(7)?

a) No	X
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	
d) Yes, comprehensive legislation is in place (please provide details below)	
e) Yes, comprehensive statutory policy or subsidiary legislation are in place (please provide details below)	
f) Yes, comprehensive policy and administrative measures are in place (please provide details below)	

Further information on the type of measures taken.

113. In developing national measures to address access to genetic resources and benefit-sharing, has your country taken into account the multilateral system of access and benefit-sharing set out in the International Treaty on Plant Genetic Resources for Food and Agriculture?

a) No	
b) Yes (please provide details below)	X

Further information on national measures taken which consider the multilateral system of access and benefit-sharing as set out in the International Treaty on Plant Genetic Resources for Food and Agriculture.

Compliance with multilateral systems for accessing and sharing benefits is included in Provisional Measure nº 2186-16/01. (See question 110).

Conservation and Sustainable Use of Genetic Resources Program. This is a program included in the Federal Government Pluri-annual Plan, with the objective of promoting the access, sustainable use, bio-safety and sharing of benefits derived from the use of genetic resources and associated traditional knowledge.

114. Is your country using the Bonn Guidelines when developing and drafting legislative, administrative or policy measures on access and benefit-sharing and/or when negotiating contracts and other arrangements under mutually agreed terms for access and benefit-sharing? (decision VII/19A)

a) No	
b) No, but steps being taken to do so (please provide details below)	
c) Yes (please provide details below)	X

Please provide details and specify successes and constraints in the implementation of the Bonn Guidelines.

Genetic Heritage Management Council [CGEN – Conselho de Gestão do Patrimônio Genético]. This is

a representative council of the Ministry of the Environment, which has the responsibility of coordinating the implementation of policies for managing the genetic heritage, and of establishing technical rules for its management. Additional information on CGEN is available at: <http://www.mma.gov.br/port/cgen/apresent.html>, <http://www.mma.gov.br/port/cgen/index.cfm>. For the 2004 report, visit: <http://www.mma.gov.br/port/cgen/doc/rel2004.pdf>

Resolutions of the Genetic Heritage Management Council:

- Resolution n° 17 of 30 September 2004. Rules on the procedures for bioprospecting and for the technological development of products of processes resulting from previously authorized access. Available at <http://www.mma.gov.br/port/cgen/doc/res17.pdf>.
- Resolution n° 12 of 25 March 2004. Establishes directives for obtaining previous authorization for access to components of the genetic heritage, with bioprospection or technological development purposes. Available at <http://www.mma.gov.br/port/cgen/doc/res12.pdf>.
- Resolution n° 11 of 25 March 2004. Establishes directives for the elaboration and analysis of Contracts for the Use of Genetic Heritage and Benefit-Sharing, which involve access to components of the genetic heritage or associated traditional knowledge provided by indigenous or local communities. Available at <http://www.mma.gov.br/port/cgen/doc/res11.pdf>.
- Resolution n° 09 of 18 December 2003. Establishes directives for obtaining previous authorization from indigenous and local communities, in order to access components of the genetic heritage with scientific research purposes, with no potential or prospect of commercial use. Available at <http://www.mma.gov.br/port/cgen/doc/res9.pdf>.
- Resolution n° 08 of 24 September 2003. Characterizes as a case of relevant public interest the access to components of the genetic heritage present in private property with the purpose of conducting scientific research which contribute towards the advance of knowledge, and which do not present a previously identified potential economic use. The full text is available at <http://www.mma.gov.br/port/cgen/doc/res8.pdf>.
- Resolution n° 07 of 26 June 2003. Establishes directives for the elaboration and analysis of Contracts for the Use of Genetic Heritage and Benefit-Sharing signed among private parties and which do not involve associated traditional knowledge or wildlife components. Available at <http://www.mma.gov.br/port/cgen/doc/res7.pdf>.
- Resolution n° 06 of 26 June 2003. Establishes directives for obtaining previous authorization for accessing traditional knowledge associated to genetic heritage, with potential or prospect commercial use purposes. Available at <http://www.mma.gov.br/port/cgen/doc/res6.pdf>.
- Resolution n° 05 of 26 June 2003. Establishes directives for obtaining previous authorization for accessing traditional knowledge associated to genetic heritage, for scientific research purposes with no potential or prospect commercial use. <http://www.mma.gov.br/port/cgen/doc/res5.pdf>.

Constructing the Brazilian Stand on the International Regime for Access and Benefit-Sharing.

See comments in question 65.

Public Consultation to Representatives of Communities Possessing Associated Traditional Knowledge. The Genetic Heritage Department of the Secretariat for Biodiversity and Forests of the Ministry of the Environment conducted, on 08 November 2004, a "Consultation to Representatives of Indigenous and Local Communities on the Access Issue", with the participation of approximately 20 representatives of indigenous and local communities, including representatives of quilombola

communities. The consultation had the purpose of debating issues related to the regulation of the definition of access to traditional knowledge, which are being discussed by the Traditional Knowledge Thematic Chamber of the Genetic Heritage Management Council [CGEN – *Conselho de Gestão do Patrimônio Genético*]. Among the main subjects discussed, emphasis was given to the different circumstances involving the issue of access and use of traditional knowledge from secondary sources, such as databases, inventories, records and publications. Source: <http://www.mma.gov.br/port/cgen/secex/acesso2.html> .

115. Has your country adopted national policies or measures, including legislation, which address the role of intellectual property rights in access and benefit-sharing arrangements (i.e. the issue of disclosure of origin/source/legal provenance of genetic resources in applications for intellectual property rights where the subject matter of the application concerns, or makes use of, genetic resources in its development)?

a) No	
b) No, but potential policies or measures have been identified (please specify below)	
c) No, but relevant policies or measures are under development (please specify below)	X
d) Yes, some policies or measures are in place (please specify below)	
e) Yes, comprehensive policies or measures adopted (please specify below)	

Further information on policies or measures that address the role of IPR in access and benefit-sharing arrangements.

This subject is ruled by Provisional Measure nº 2186-16/01, which establishes:

“Article 31 – the concession of right to intellectual property provided by the appropriate agencies concerning a process or product obtained through a sample of a genetic heritage component depends on compliance with this Provisional Measure, according to which the claimant must inform the origin of the genetic material and of the associated traditional knowledge, when appropriate”.

Based on a proposal elaborated by the Genetic Heritage Management Council, the Brazilian government is promoting a revision of the legislation on access and benefit-sharing, preparing the substitution of the current Provisional Measure nº 2186-16/01. The government is concluding the proposal to be presented to the National Congress, which is being elaborated with the participation of several governmental and civic sectors.

116. Has your country been involved in capacity-building activities related to access and benefit-sharing?

a) Yes (please provide details below)	X
b) No	

Please provide further information on capacity-building activities (your involvement as donor or recipient,

key actors involved, target audience, time period, goals and objectives of the capacity-building activities, main capacity-building areas covered, nature of activities). Please also specify whether these activities took into account the Action Plan on capacity-building for access and benefit-sharing adopted at COP VII and available in annex to decision VII/19F.

Constructing the Brazilian Stand on the International Regime for Access and Benefit-Sharing.

See comments in question 65.

Training Course on Bio-piracy Combat for IBAMA Inspectors. The Genetic Heritage Department of the Secretariat for Biodiversity and Forests of the Ministry of the Environment, in partnership with IBAMA, Federal Police and Funai, conducted in Brasília, from 13 to 16 December 2004, a training course for IBAMA inspectors on the enforcement of bio-piracy related infractions. The course addressed the Convention on Biological Diversity and the national legislation on bio-piracy combat. The inspectors will be prepared to identify the necessary documentation for transboundary transport and for bioprospection. This was the first initiative to train inspectors on this subject, and counted with the participation of 45 agents from several states. <http://www.mma.gov.br/port/cgen/secex/acesso2.html> .

Traditional knowledge, means of access and benefit-sharing. Conducted from 01 to 05 November 2004 by the Nucleus to Support Research on Human Populations in Brazilian Wetlands [NUPAUB – *Núcleo de Apoio a Pesquisas sobre Populações Humanas em Áreas Úmidas Brasileiras*] of the São Paulo University (USP), in partnership with CGEN, this course had the objective of analyzing the importance of traditional knowledge of indigenous, quilombola, coastal, cabocla, and sertaneja communities, among others, and the implications of a Decree and another Bill currently being discussed which, according to the new procedures, will affect projects conducted by botanists, biologists, anthropologists and other researchers using knowledge generated by these communities. The course also had the purpose of proposing a new ethic, by which local communities may benefit from their traditional knowledge and practices, and trained professionals for elaborating anthropological technical opinions and to supervise work being conducted in indigenous lands and at local communities. During the course, the new protocols for conducting research in areas inhabited by traditional communities were also discussed. Additional information at <http://www.usp.br/nupaub/evento7.html> .

The **Nucleus to Support Research on Human Populations in Brazilian Wetlands** [NUPAUB – *Núcleo de Apoio a Pesquisas sobre Populações Humanas em Áreas Úmidas Brasileiras*] of the São Paulo University conducted the following workshops:

- Ethno-conservation of Biodiversity – 2003;
- Traditional Knowledge and Management of Resources of Communal Use – 2003.
- Ethno-ecology: Theoretical Construction, Methodological Search and Ethical Attitude – 2005.

Additional information at <http://www.usp.br/nupaub> .

Traditional Knowledge: Legal Protection, Access and Benefit-Sharing. This workshop was conducted by the Acre state government from 02 to 04 October 2003. The participants discussed themes such as the protection of traditional knowledge associated to biodiversity, and benefit-sharing. Additional information at http://www.amazonlink.org/biopirataria/seminario_riobranco_10_2003.pdf .

North Network of Intellectual Property, Biodiversity and Traditional Knowledge. See comments in question 61.

See comments in questions 61 and 63.

Box XIV.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) The strengthening of the Genetic Heritage Management Council is causing positive impacts. It should be stressed that the CGEN places great importance on the issue of traditional knowledge and the communities who possess them, seeking to increase their participation in the decision-making processes. The elaboration of two benefit-sharing contracts is a highlight. Considering the complexity of the "benefit-sharing" subject, emphasis must also be given to the efforts applied in providing training and capacity-building. Other important outcomes are the regulation of access to genetic heritage, accredited collections, approved research projects, and approved contracts (see comments in question 114).
- b) The initiatives contribute towards achieving Objective 2 of the CBD Strategic Plan (Parties have improved financial, human, scientific, technical, and technological capacity to implement the Convention).
- c) The initiatives contribute towards achieving Objective 10 of the CBD 2010 Goals (ensure the just and equitable sharing of benefits resulting from the use of genetic resources).
- d) The initiatives contribute to the implementation of Component 5 of the National Biodiversity Policy, which aims at promoting controlled access to genetic resources, genetic heritage components and associated traditional knowledge, with the purpose of adding value through scientific research and technological development, and of distributing the benefits generated by their use, in such a way that they are justly and equitably shared with the Brazilian society, including indigenous peoples, quilombola communities and other local communities.
- e) The initiatives contribute towards achieving Objective 7 (ensure environmental sustainability) and Objective 2 (eradicate extreme poverty and hunger), since they mostly concern indigenous peoples and quilombola communities, among other communities which possess traditional knowledge, and which often suffer with poverty.
- f) Difficulties identified: need for greater political support; limited public participation and involvement of social players; need to expand and train human resources; weakened institutions, which cause the lack of capacity for action; lack of human resources; lack of technology and expertise transfer; loss of traditional knowledge; lack of adequate scientific research capacity to support all objectives; lack of knowledge and documentation on the loss of biodiversity and of goods and services provided by biodiversity; incomplete use of scientific and traditional knowledge; insufficient information dissemination at the national and international levels; lack of public education and awareness building at all levels; lack of financial resources; lack of economic incentive measures; lack of benefit-sharing; lack of synergy at the national and international levels; lack of horizontal

cooperation among social players; lack of effective partnerships; lack of engagement from the scientific community; need to adapt existing policies and legislation; unsustainable production and consumption standards; lack of capacity at local communities.

Article 16 - Access to and transfer of technology

117. On Article 16(1), has your country taken measures to provide or facilitate access for and transfer to other Parties of technologies that are relevant to the conservation and sustainable use of biological diversity or make use of genetic resources and do not cause significant damage to the environment?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (please provide details below)	

Further information on the measures to provide or facilitate access for and transfer to other Parties of technologies that are relevant to the conservation and sustainable use of biodiversity or make use of genetic resources and do not cause significant damage to the environment.

Provisional Measure n° 2186-16 includes a chapter on access to and transfer of technology.

Law n° 8666, of 21 June 1993: insertion XXV of Article 24 (included by Law n° 10973 of 2004) states that public bidding is not necessary for contracts elaborated by Scientific and Technological Institutions [ICT – *Instituição Científica e Tecnológica*] or by support agencies, for technology transfer and for licensing the use or exploitation of a protected invention.

Technological Innovation Law: Law n° 10793, sanctioned on 02 December 2004, is organized around three axes: the constitution of an environment favorable to the construction of strategic partnerships among universities, technological institutes and businesses; the stimulus to the participation of science and technological institutions in the innovation process; and the incentive to innovation in the private sector.

This law establishes authorization for the creation of new businesses in the public space and the possibility of sharing public and private infrastructure, equipment and human resources, for technological development and for the generation of innovative processes and products. It also establishes rules to allow governmental researchers to develop applied research and technological increments.

Its main mechanisms are: the allocation of grants to stimulate innovation, and the payment of variable bonuses to governmental employees (which shall not be permanently incorporated to the salary), both funded by resources raised by the activity being developed; the participation of the researcher in the income obtained by the institution through the use of intellectual property; and the unpaid sabbatical with the purpose of establishing a technology-based business.

This law also authorizes the direct payment of budget resources to companies for a specific innovation project, in which case matching funds and results assessment are required. The law also includes the following instruments: technology orders, governmental participation in a society for a specific purpose, and investment funds.

National Technological, Industrial and Commercial Compensation Policy: An inter-ministry work group is evaluating the viability and convenience of adopting a National Compensation Policy, or "offset". This type of policy is already applied by the Brazilian Ministry of Defense. This policy comprises compensation agreements elaborated for the acquisition of highly technological products, which in this case would be products for the country's defense.

The offset operations are divided into direct operations, when there is some type of explicit transfer of staff, equipment and sensitive technology, and indirect operations, through commercial acquisition, training and merchandise exchange. This is an excellent knowledge-attracting instrument.

The **Genetic Heritage Management Council** possesses a Thematic Chamber on the Access to and Transfer of Technology, with the following responsibilities:

- Elaborate and present to the Council's Plenary, rules and procedures on the access to technology and technology transfer for the conservation and use of biological diversity;
- Elaborate and present to the Council's Plenary, for subsequent proposal to the Federal Government, tax incentive instruments and stimulus instruments to companies which, during the process of ensuring access to and transfer of technology to national public or private institutions responsible for the conservation and use of biodiversity, invest in research and development activities in the country;
- Analyze the recommendations, directives, actions and goals related to the subject of access to and transfer of technology, present in the international and national policies, and in the several forums dealing with this subject, proposing to the Council's Plenary the adequate actions for their implementation;
- Report and submit to the approval of the Council's Plenary, any consultation made to the Technical Chamber about access to and transfer of technology for the conservation and use of biological diversity;
- Monitor subjects related to this Thematic Chamber through participation in events, technical visits, and joint meetings with the other Thematic Chambers, by request of the Council's Plenary, of the Council's Executive Secretariat, or of the Chamber Coordinator;
- Establish Work Groups [GT – *Grupos de Trabalho*] for those themes considered specific or which present short deadlines for the presentation of their analysis or of analysis of proposals originated by them;
- Promote debates and consultations with the parties interested in the subject of this Chamber, as well as to invite specialists and representatives of civic spheres, including the academic sector, to advise on technical, legal or scientific matters

118. On Article 16(3), has your country taken measures so that Parties which provide genetic resources are provided access to and transfer of technology which make use of those resources, on mutually agreed terms?

a) No	X
b) No, but potential measures are under review	
c) Yes, some measures are in place	
d) Yes, comprehensive legislation is in place	
e) Yes, comprehensive statutory policy or subsidiary legislation are in place	
f) Yes, comprehensive policy and administrative arrangements are in place	
g) Not applicable	

119. On Article 16(4), has your country taken measures so that the private sector facilitates access to joint development and transfer of relevant technology for the benefit of Government institutions and the private sector of developing countries?

a) No	X
b) No, but potential measures are under review	
c) Yes, some policies and measures are in place (please provide details below)	
d) Yes, comprehensive policies and measures are in place (please provide details below)	
e) Not applicable	

Further information on the measures taken.

Box XV.

Please elaborate below on the implementation of this article specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Few measures were adopted, restricted to the elaboration of legislation.
b) No contributions were made.
c) No contributions were made.
d) No contributions were made.
e) No contributions were made.
f) Lack of information and knowledge: technology offer and demands were not yet identified.

Programme of Work on transfer of technology and technology cooperation

120. Has your country provided financial and technical support and training to assist in the implementation of the programme of work on transfer of technology and technology cooperation? (decision VII/29)

a) No	X
b) No, but relevant programmes are under development	
c) Yes, some programmes being implemented (please provide details below)	
d) Yes, comprehensive programmes being implemented (please provide details below)	

Further comments on the provision of financial and technical support and training to assist in the implementation of the programme of work on transfer of technology and technology cooperation.

121. Is your country taking any measures to remove unnecessary impediments to funding of multi-country initiatives for technology transfer and for scientific and technical cooperation? (decision VII/29)

a) No	X
b) No, but some measures being considered	
c) Yes, some measures are in place (please provide details below)	
d) Yes, comprehensive measures are in place (please provide details below)	

Further comments on the measures to remove unnecessary impediments to funding of multi-country initiatives for technology transfer and for scientific and technical cooperation.

122. Has your country made any technology assessments addressing technology needs, opportunities and barriers in relevant sectors as well as related needs in capacity building? (annex to decision VII/29)

a) No	X
b) No, but assessments are under way	
c) Yes, basic assessments undertaken (please provide details below)	
d) Yes, thorough assessments undertaken (please provide details below)	

Further comments on technology assessments addressing technology needs, opportunities and barriers in relevant sectors as well as related needs in capacity building.

123. Has your country made any assessments and risk analysis of the potential benefits, risks and associated costs with the introduction of new technologies? (annex to decision VII/29)

a) No	X
b) No, but assessments are under way	
c) Yes, some assessments undertaken (please provide details below)	
d) Yes, comprehensive assessments undertaken (please provide details below)	

Further comments on the assessments and risk analysis of the potential benefits, risks and associated costs with the introduction of new technologies.

124. Has your country identified and implemented any measures to develop or strengthen appropriate information systems for technology transfer and cooperation, including assessing capacity building needs? (annex to decision VII/29)

a) No	
b) No, but some programmes are under development	X
c) Yes, some programmes are in place and being implemented (please provide details below)	
d) Yes, comprehensive programmes are being implemented (please provide details below)	

Further comments on measures to develop or strengthen appropriate information systems for technology transfer and cooperation.

Clearing House Mechanism – CHM Brazil. This CHM is still in the planning phase (see comments in question 133).

Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among the South American Countries (see comments in question 128).

125. Has your country taken any of the measures specified under Target 3.2 of the programme of work as a preparatory phase to the development and implementation of national institutional, administrative, legislative and policy frameworks to facilitate cooperation as well as access to and adaptation of technologies of relevance to the Convention? (annex to decision VII/29)

a) No	X
b) No, but a few measures being considered	
c) Yes, some measures taken (please specify below)	
d) Yes, many measures taken (please specify below)	

Further comments on the measures taken as a preparatory phase to the development and implementation of national institutional, administrative, legislative and policy frameworks to facilitate cooperation as well as access to and adaptation of technologies of relevance to the Convention.

Box XVI.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) Few measures were adopted, limited to the elaboration of legislation and to the signature of agreements.
- b) No contributions were made.
- c) No contributions were made.
- d) No contributions were made.
- e) No contributions were made.
- f) Lack of information and knowledge: technology offer and demands were not yet identified.

Article 17 - Exchange of information

126. On Article 17(1), has your country taken measures to facilitate the exchange of information from publicly available sources with a view to assist with the implementation of the Convention and promote technical and scientific cooperation?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place	X
d) Yes, comprehensive measures are in place	
Scielo: see comments in question 90.	

The following question (127) is for DEVELOPED COUNTRIES

127. On Article 17(1), do these measures take into account the special needs of developing countries and include the categories of information listed in Article 17(2), such as technical, scientific and socio-economic research, training and surveying programmes, specialized knowledge, repatriation of information and so on?

a) No	
b) Yes, but they do not include the categories of information listed in Article 17(2), such as technical, scientific and socio-economic research, training and surveying programmes, specialized knowledge, repatriation of information and so on	
c) Yes, and they include categories of information listed in Article 17 (2), such as technical, scientific and socio-economic research, training and surveying programmes, specialized knowledge, repatriation of information and so on	

Box XVII.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

<ol style="list-style-type: none"> a) The conduction of the Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among South American Countries (see comments in question 128) allowed the interchange of information on the National Biodiversity Strategies of the South American Countries. The Brazilian CHM is currently being planned and structured. b) The conduction of the Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among South American Countries (see comments in question 128)

contributes towards achieving Objective 1.3 of the CBD Strategic Plan (Other international processes are actively supporting implementation of the Convention, in a manner consistent with their respective frameworks).

- c) No contributions were made.
- d) The implementation of the Brazilian CHM contributes to the implementation of the first directive of Component 6 (Development of a national information system to disseminate information on biodiversity). The conduction of the Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among South American Countries contributes to the implementation of the fifth directive of Component 7 of the National Biodiversity Policy (Promotion of international cooperation for biodiversity management, with the strengthening of international legal actions).
- e) The implementation of the Brazilian CHM is hindered by the difficulty in systematizing the large quantity of available information, which is also dispersed.

Article 18 - Technical and scientific cooperation

128. On Article 18(1), has your country taken measures to promote international technical and scientific cooperation in the field of conservation and sustainable use of biological diversity?

- | | |
|--|---|
| a) No | |
| b) No, but potential measures are under review | |
| c) Yes, some measures are in place (please provide details below) | |
| d) Yes, comprehensive measures are in place (please provide details below) | X |

Further information on the measures to promote international technical and scientific cooperation.

Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among South American Countries. See comments in question 10.

Special Secretariat for Aquaculture and Fisheries of the President's Office [SEAP – *Secretaria Especial de Aqüicultura e Pesca*]. Two international cooperation actions are currently being developed by SEAP artisanal fisheries sector: Technical Cooperation with the Spanish International Cooperation Agency for the sustainable development of fisheries and mollusk exploitation around the Lençóis Maranhenses National Park; and international partnership with the *Xunta de Galicia* for the creation of the Cabedelo Training Center on Marine Aquaculture and Fisheries in Paraíba state.

Joint Declaration on the Scientific and Technological Cooperation between Brazil and Argentina (Buenos Aires, 21 February 2003). The Brazilian Minister of Science and Technology and the Argentine Secretary for Science, Technology and Productive Innovation conducted the joint evaluation of the respective national policies on scientific and technological development of both countries, and verified the existence of broad convergence of directives and objectives, which allows the development of a joint cooperation program at the bi-national, sub-regional and South American levels. Opportunities for the establishment of networked groups, laboratories and research institutes at both countries will be examined for the following areas, for which there are existing or potential installed development elements: production competitiveness; agricultural and cattle-breeding production and sanity; information and communication technologies; health; renewable and non-renewable resources; economic and social development; technological incubators, parks and centers; air and space; atomic energy; among others. Among several other fields of knowledge increasingly dependent on science, the following are cooperation challenges: energy generation; biotechnology for health, food and agricultural production; preservation and dissemination of cultural, local and regional values; and the study and adequate economic exploitation of biodiversity resources in both countries. Additional information at http://www.mct.gov.br/legis/outros_atos/decl_bra_arg_2003.htm .

Multilateral Agreements: Brazil is party to the following multilateral agreements and programs:

- Amazon Cooperation Treaty [TCA - *Tratado de Cooperação Amazônica*];
- Treaty of Asunción for Constituting the Southern Cone Common Market (MERCOSUR);
- Cooperative Program for the Technological Agro-alimentary and Agro-industrial Development of the Southern Cone (PROCISUR);
- Agreement for Constituting the Inter-American Institute for Research on Global Change;
- Cooperative Research and Technology Transfer Program for the South American Tropics (PROCITROPICOS);

- Regional Scientific and Technological Cooperation Agreement among Member Countries of the Latin-American Integration Association [ALADI – *Asociación Latino Americana de Integración*];
- Agreement for the Establishment of a Sub-regional Knot of the Electronic System for Interchange of Environmental Information (UNEPnet-ALC) within the United Nations Environment Programme (UNEP);
- Agreement for the creation of the Inter-American Biodiversity Information Network (IABIN);
- Agreement for the creation of the Latin-American Botany Network [RLB - *Rede Latino-Americana de Botânica*];
- Agreement among Governments and organizations for the creation of the Consultative Group on International Agricultural Research (CGIAR);
- Pilot Program for the Protection of Brazilian Tropical Forests (PPG7);
- Large Scale Biosphere-Atmosphere Experiment in Amazon (LBA).
- South American Support Program to the Science and Technology Cooperation Activities (PROSUL)
- Iberian-American Program on Science and Technology for Development [CYTED – *Ciencia y Tecnología para el Desarrollo*]

Bilateral Agreements: Brazil is party to several bilateral agreements on technical and scientific cooperation. The agreements signed with South American countries were listed in the following publication of the Directorate of the National Biodiversity Conservation Program of the Ministry of the Environment: "National Biodiversity Strategies in South America: Perspectives for Regional Cooperation". The book was published in 2004, and the full text is available in Portuguese, English and Spanish: http://www.mma.gov.br/index.cmf?id_estrutura=37&id_conteudo=1918 , http://www.mma.gov.br/index.cmf?id_estrutura=37&id_conteudo=1919 , http://www.mma.gov.br/index.cmf?id_estrutura=37&id_conteudo=1920 .

Other bilateral agreements are available in the First National Report to the CBD (Chapter VI – Box 6-1c), which was published in 1998 and is available at the following electronic addresses: http://www.mma.gov.br/?id_estrutura=14&id_conteudo=1876 and http://www.mre.gov.br/portugues/politica_externa/relacoes/index.asp .

Amazonian Initiative. This is a cooperation consortium composed by the major research and development institutions of the Amazon Region: Ministry of Agriculture, Bolivia; EMBRAPA, Brazil; Corpoica, Colombia; INIAP, Ecuador; INIEA, Peru; INIA, Venezuela; and the international research centers of the CGIAR (Consultative Group on International Agricultural Research) – IPGRI, CIAT, ICRAF, CIFOR and IICA-PROCITROPICOS. The Executive Secretariat is located in Brazil. This initiative has the mission of contributing towards the sustainable growth of the region through promoting policies and technologies. Its objectives are to implement collaborative Research and Development programs with the purpose of reducing or reversing the degradation of Amazonian natural resources through the development of sustainable systems, and of improving life conditions of local populations.

CNPq Public Notice nº 011/2004 – Public Selection to support Joint Research Projects of the Marine Sciences Program, inserted into the Brazil/Germany cooperation, on the following priority research themes:

- Coastal Management: Research must be conducted in marine areas of the coastal zone and focus on the interactions of coastal resources, including marine aquaculture, and must develop conceptual models for management recommendations.

- Marine Pollution: Research must consider pollution as the main obstacle to sustainable development at the coastal zone, and the interaction among the continental, coastal and marine areas.
- Living Resources: Research must consider the interactions with and among ecosystems, and the consequences of human activities on biodiversity and productivity of the living resources.
- Ports: Research must focus on the development and application of mathematical models to guide port administration concerning environmental safety, economic efficiency, and social responsibility.

129. On Article 18(4), has your country encouraged and developed methods of cooperation for the development and use of technologies, including indigenous and traditional technologies, in pursuance of the objectives of this Convention?

a) No	
b) No, but relevant methods are under development	
c) Yes, methods are in place	X

130. On Article 18(5), has your country promoted the establishment of joint research programmes and joint ventures for the development of technologies relevant to the objectives of the Convention?

a) No	
b) Yes (please provide some examples below)	X

Examples for the establishment of joint research programmes and joint ventures for the development of technologies relevant to the objectives of the Convention.

LBA Program (Large-Scale Biosphere-Atmosphere Experiment in Amazon). The LBA is an international research initiative under Brazilian leadership. LBA is designed to generate new knowledge to understand the Amazonian climate, ecological, biogeochemical and hydrological function, the impact that changes in land use cause on these functions, and the interactions among the Amazon and the global biogeophysical system. The main results of the project are the scientific publications: since the project initiated in 1999, and until the end of 2004, 451 scientific articles were published. Additional information at <http://lba.inpa.gov.br/lba>.

Northeastern Plants Program [PNE – *Plantas do Nordeste*]. PNE is a multidisciplinary research project, which focus on the study of biodiversity and the sustainable use of native plant resources of the Brazilian Northeast, uniting conservation to ecosystem improvement, seeking regional socio-economic benefits. The Program initiated in 1992 as a result of a British-Brazilian collaboration among the National Scientific and Technological Development Council (CNPq), universities, governmental research institutes, and non-governmental organizations in Brazil, and the Royal Botanical Gardens – Kew (RGB) in England. Research developed within this Program focus on the semi-arid region, which occupies approximately half of the Brazilian Northeast. Research is conducted on different vegetation types, such as *caatingas* (different types of xeric vegetation), *brejos* (altitudinal humid vegetation), and altitudinal vegetation at Chapada Diamantina, and include biodiversity research, economic botany applied research, information management and dissemination, and training. These integrated components favor the interchange of

information on regional native resources among scientists, and the dissemination of practical solutions to agencies working with local communities, which are responsible for the regional development, conservation and planning. The Program contains 3 sub-programs:

- Biodiversity Sub-program;
- Economic Botany Sub-program;
- Information, Dissemination and Training Sub-program.

Additional information at www.plantasdonordeste.org.

131. Has your country established links to non-governmental organizations, private sector and other institutions holding important databases or undertaking significant work on biological diversity through the CHM? (decision V/14)

a) No	
b) No, but coordination with relevant NGOs, private sector and other institutions under way	
c) Yes, links established with relevant NGOs, private sector and institutions	X

The following question (132) is for DEVELOPED COUNTRIES

132. Has your country further developed the CHM to assist developing countries and countries with economies in transition to gain access to information in the field of scientific and technical cooperation? (decision V/14)

a) No	
b) Yes, by using funding opportunities	
c) Yes, by means of access to, and transfer of technology	
d) Yes, by using research cooperation facilities	
e) Yes, by using repatriation of information	
f) Yes, by using training opportunities	
g) Yes, by using promotion of contacts with relevant institutions, organizations and the private sector	
h) Yes, by using other means (please specify below)	

Further comments on CHM developments to assist developing countries and countries with economies in transition to gain access to information in the field of scientific and technical cooperation.

133. Has your country used CHM to make information available more useful for researchers and decision-makers? (decision V/14)

a) No	
-------	--

b) No, but relevant initiatives under consideration

c) Yes (please provide details below)

X

Further comments on development of relevant initiatives.

Brazilian Biodiversity Information Network. The National Biodiversity Strategy Project and the National Report to the CBD have as one of their objectives the implementation of the CHM in Brazil. For that, the Brazilian Biodiversity Information Network was elaborated, and its implementation is planned for the end of 2005. The objectives of the Network are:

1. Cooperation: promotion and facilitation of technical and scientific cooperation;
2. Information Interchange: development of a global mechanism for biodiversity information exchange and integration;
3. Network Development: development of the CHM focal points and CHM partner development;
4. Deepening the Discussions: the Network should promote deeper discussions on polemic biodiversity-related themes, with the purpose of generating ideas and opinions;
5. Technology Transfer: identification of technology offer and demands that may contribute to biodiversity conservation and sustainable use, as well as to the just and equitable distribution of benefits derived from access to genetic resources and associated traditional knowledge.

The Network will have the following responsibilities:

1. To provide, to the entire Brazilian society, detailed and accessible information on the CBD and its implementation in Brazil, and on the National Biodiversity Strategy and its implementation.
2. To promote the production, systematization and broad dissemination of information on biodiversity status at the national level, including species, ecosystems, habitats, impacts on biodiversity, *in situ* and *ex situ* conservation systems, priority areas for biodiversity conservation and sustainable use, biodiversity programs and projects, institutions working on biodiversity management, and lists of endangered species, among others.
3. To provide assistance to the implementation of the National Biodiversity Policy and its action plans, and to provide assistance to the execution of the National Biodiversity Program [PRONABIO – *Programa Nacional de Biodiversidade*], concerning biodiversity information and technical-scientific cooperation.
4. To promote technical and scientific cooperation and training of human resources on biodiversity, throughout the country.
5. To increase public awareness and sensitivity concerning issues related to Brazilian biological diversity.
6. To promote, organize and host consultation meetings on themes connected to CBD implementation; to promote, organize and host meetings to elaborate action plans and other instruments for the implementation of the National Biodiversity Policy.

The responsibilities and lines of action of the Brazilian Biodiversity Information Network were designed considering that the Network is a permanent instrument for information interchange. However, the responsibilities of the BRA/97/G31 project are limited to conducting the initial Network implementation. Therefore, the project will develop the Biodiversity Portal as the first mechanism for the implementation of the Brazilian Biodiversity Information Network.

South American Biodiversity Information Network (South America CHM). The participants of the Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among the South American Countries agreed on the creation of a biodiversity information network, constructed according to CHM principles, and which could respond to the needs of the South American countries, as well as promote information cooperation and interchange among them. In addition to geographical proximity, which allows ecosystem sharing, the colonial history of South American countries makes them also historically, economically, and socially similar, and the problems faced by these countries are therefore also similar. Thus, the promotion of cooperation among South American countries, allowed by the creation of this network, may generate benefits to all countries, in addition to obviously strengthening South America.

Environmental Information Reference Center [CRIA – Centro de Referência em Informação Ambiental]. The CRIA has the goal and strategy of disseminating on-line information, as a tool in the organization of the scientific and technological community in Brazil. Its actions specifically involve the biological information of industrial and environmental interest, and its purpose is to directly contribute to biodiversity conservation and rational use in Brazil. CRIA participates in the following projects:

- BIOTA/FAPESP. The Research Program on Biodiversity Sustainable Conservation in the State of São Paulo, named Biota/Fapesp – The Virtual Biodiversity Institute, is the result of the coordination of the scientific community of São Paulo state concerning the ideas and recommendations of the CBD, which was signed during the RIO-92 Conference and ratified by the National Congress in 1994.
- SINBIOTA. The SinBiota is an Environmental Information System for the State of São Paulo, which has the objective of promoting and facilitating access to biodiversity information for the scientific community, the government and the general public, with the purpose of contributing to biodiversity conservation and sustainable use. To achieve this objective, biodiversity data generated by projects of the Biota-FAPESP Program and by other institutions not connected to the Program, are being systematized, integrated, and made available through the Environmental Information System.
- SPECIES LINK. This is a project funded by FAPESP through the BIOTA program. It is an information system distributed with the purpose of recuperating biological and biodiversity data, integrating heterogeneous databases of over 30 biological collections in São Paulo state. The project also includes the development, dissemination and training on the use of modeling algorithms for species distribution, and on the implementation of software for use in basic biological research, spatial mapping of species, data management and maintenance, and elaboration of public policies, among others.
- BIOTA NEOTRÓPICA. The *Biota Neotropica* journal, edited by the Biota/Fapesp Program – The Virtual Biodiversity Institute, publishes results produced by original research, connected or not to the program, concerning the issue of biodiversity conservation and sustainable use in the Neotropical region.
- LIFE MAPPER. This project results from a collaboration agreement among CRIA and the Kansas University Biodiversity Research Center, and is funded by NSF (National Science Foundation). The project objective is to create a large collection of geographic distribution models for the approximately 100,000 species (including Brazilian native species) listed in the Species Analyst

network. The models are created based on the GARP genetic algorithm, and computed in Screen Savers distributed through personal computers and work stations of tens of thousands of users spread all over the world.

- DESKTOP GARP. This project is developed in collaboration with the Kansas University Biodiversity Research Center, in the United States. It is a software package for use in biodiversity and ecology research, which allows the user to make predictions, models and analyses on the geographic distribution of wildlife.
- SICOL. The Information System on Collections of Biotechnological Interest [SICol – *Sistema de Informação de Coleções de Interesse Biotecnológico*] is a product of the National Biotechnology and Genetic Resources Program of the Ministry of Science and Technology, and has the objective of functioning as an integrating element for the several and diverse collections of biotechnological interest, in addition to disseminating information on the Brazilian Biological Resource Centers.
- HYDRO. This project is a partnership between CETESB and CENA/USP, with the objective of making available a geo-referenced database on the quality of the hydrological resources of the Piracicaba river watershed. The intention is to structure an information system capable of providing the necessary data to the management of hydrological resources in the watershed, significantly contributing to better understand ecosystem function within the watershed, and to the construction of a new paradigm for hydrological resource management.
- I3N. The I3N project has the objective of developing a distributed and inter-operated information network on invasive Species in the Americas. During the implementation of the Inter-American Biodiversity Information Network (IABIN), a tool was developed to catalogue information, which is being tested by organizations in 11 countries (Argentina, Brazil, Bahamas, Chile, Dominican Republic, Ecuador, El Salvador, Guatemala, Jamaica, Mexico and Paraguay).
- ITIS. The Integrated Taxonomic Information System has the goal of creating an easily accessible database containing reliable information on species names and their hierarchical classification. This is a partnership among agencies of the United States, Canada and Mexico, and other organizations (among which the CRIA) and taxonomy specialists. ITTS is also partner to the Species 2000 and the Global Biodiversity Information Facility (GBIF).
- BIOLINE INTERNATIONAL. This is a non-profit on-line publishing service, compromised with providing access to quality publications containing research from developing countries. The service is managed by scientists and librarians in a cooperative work among the Toronto University Libraries, which manage the system, the Environmental Information Reference Center (CRIA) in Brazil, which is responsible for storing and managing the database, and Bioline/UK.
- NEOFRUG. This database contains information on the interactions among frugivore animals and plants of the Neotropical region. This is an initiative of the UNICAMP Vertebrate-Plant Interaction Laboratory, funded by FAPESP.

134. Has your country developed, provided and shared services and tools to enhance and facilitate the implementation of the CHM and further improve synergies among biodiversity-related Conventions? (decision V/14)

a) No	X
b) Yes (please specify services and tools below)	
Further comments on services and tools to enhance and facilitate the implementation of CHM and further improve synergies among biodiversity-related Conventions.	
Synergy of the Three Conventions Project – Convention on Biological Diversity, United Nations Convention to Combat Desertification and United Nations Framework Convention on Climate Change. See comments in question 18.	

Box XVIII.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) The conduction of the Meeting for Identification of Themes on Biodiversity for Cooperation among the South American Countries, during which the participating countries signed the pledge to create the South American Biodiversity Information Network (South America CHM), created notable possibilities for the interchange of information and experience among South American countries, which possess similar realities regarding issues related to biodiversity. The strengthening of South American cooperation is the first step towards creating the necessary conditions for the autonomous analysis of South American problems, and proposal of solutions.
- b) The conduction of the Meeting for Identification of Themes on Biodiversity for Cooperation among the South American Countries contributed towards achieving Objective 1.3 (Other international processes are actively supporting implementation of the Convention, in a manner consistent with their respective frameworks) and Objective 1.6 (Parties are collaborating at the regional and sub-regional levels to implement the Convention).
- c) No contributions were made.
- d) The conduction of the Meeting for Identification of Themes on Biodiversity for Cooperation among the South American Countries contributed to the implementation of the fifth directive of Component 7 of the National Biodiversity Policy (Promotion of international cooperation for biodiversity management, with the strengthening of international legal actions).
- e) No contributions were made.
- f) There are great difficulties in strengthening international technical-scientific cooperation among developing countries, and these difficulties are related to the lack of technical and human resources.

Article 19 - Handling of biotechnology and distribution of its benefits

135. On Article 19(1), has your country taken measures to provide for the effective participation in biotechnological research activities by those Contracting Parties which provide the genetic resources for such research?

a) No	X
b) No, but potential measures are under review	
c) Yes, some measures are in place	
d) Yes, comprehensive legislation are in place	
e) Yes, comprehensive statutory policy and subsidiary legislation are in place	
f) Yes, comprehensive policy and administrative measures are in place	

136. On Article 19(2), has your country taken all practicable measures to promote and advance priority access by Parties, on a fair and equitable basis, to the results and benefits arising from biotechnologies based upon genetic resources provided by those Parties?

a) No	X
b) No, but potential measures are under review	
c) Yes, some measures are in place	
d) Yes, comprehensive measures are in place	

Box XIX.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) Bio-Safety Law and CNTBIO reformulation. CONAMA Resolution n° 305, of 12 June 2002, defines the need of an environmental license in order to conduct activities involving the use of genetically modified organisms. Conduction of the Workshop on the Bio-safety of Transgenic Cotton.
- b) Not applicable.
- c) Not applicable.
- d) Not applicable.
- e) Not applicable.
- f) The following difficulties were identified: need for greater political support; limited public participation and involvement of social players; limited encompassing inclusion of biodiversity by

other civic spheres; lack of preventive proactive measures, causing reactive policies; limited capacity for action caused by the weakening of institutions; lack of human resources; lack of technology and expertise transfer; lack of adequate scientific research capacity to support all objectives; lack of knowledge and documentation on the loss of biodiversity and loss of goods and services provided by biodiversity; incomplete use of scientific and traditional knowledge; insufficient information dissemination at the national and international levels; lack of public education and awareness building at all levels; lack of financial resources; lack of synergy at the national and international levels; lack of horizontal cooperation among social players; lack of effective partnerships; lack of engagement of the scientific community; need to adapt existing policies and legislation; lack of capacity building at local communities.

Article 20 – Financial resources

Box XX.

Please describe for each of the following items the quantity of financial resources, both internal and external, that have been utilized, received or provided, as applicable, to implement the Convention on Biological Diversity, on an annual basis, since your country became a Party to the Convention.

a) Budgetary allocations by national and local Governments as well as different sectoral ministries	
b) Extra-budgetary resources (identified by donor agencies)	
c) Bilateral channels (identified by donor agencies)	
d) Regional channels (identified by donor agencies)	
e) Multilateral channels (identified by donor agencies)	
f) Private sources (identified by donor agencies)	
g) Resources generated through financial instruments, such as charges for use of biodiversity	

Box XXI.

Please describe in detail below any major financing programmes, such as biodiversity trust funds or specific programmes that have been established in your country.

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137. On Article 20(1), has your country provided financial support and incentives to those national activities that are intended to achieve the objectives of the Convention?

a) No	
b) Yes, incentives only (please provide a list of such incentives below)	
c) Yes, financial support only	
d) Yes, financial support and incentives (please provide details below)	X

Further comments on financial support and incentives provided.

Incentives: The Green VAT is the main economic incentive concerning biodiversity.

Financing: The Federal Government Pluri-annual Plan possesses 61 programs containing actions which are directly or indirectly related to CBD implementation. The **National Environment Fund [FNMA – Fundo Nacional de Meio Ambiente]** is the main instrument within the Brazilian government for the

implementation of the National Environmental Policy, and for complying with international environmental agreements and conventions to which Brazil is a signatory country. FNMA receives financial resources from:

- Lending Agreement 1013/SF-BR, signed with the Inter-American Development Bank (IDB) on 29 April 1999. This agreement has the purpose of supporting the following areas, through Spontaneous Proposal Presentation and Specific Calls for Proposals: Forestry Extension; Integrated Management of Protected Areas; Sustainable Management of Flora and Fauna; Sustainable Use of Fisheries Resources; Environmental Education; Sustainable Amazon; Environmental Quality; and Integrated Management of Solid Waste.
- Technical Cooperation Agreement signed with the Kingdom of the Netherlands, to support projects on the "Generation of knowledge on climate change and desertification".
- Law of Environmental Crimes, which rules on penal and administrative sanctions that may be applied to conducts and activities which are harmful to the environment. FNMA receives 10% of the monies collected by fines issued by IBAMA for environmental crimes and violations.
- Share of Financial Compensations (Law n° 9478, of 06 August 1997), which are resources from special participations, 10% of which are destined to the Ministry of the Environment, for the development of studies and projects on environmental preservation and restoration of environmental damages caused by activities of the oil industry.

Additional information at www.mma.gov.br/fnma .

Brazilian Biodiversity Fund [FUNBIO – Fundo Brasileiro para a Biodiversidade]. The main objective of FUNBIO is to catalyze resources to support strategic actions for the conservation and sustainable use of biodiversity in Brazil. This is a non-profit civil association created in October 1995 with the general objective of complementing governmental actions for the conservation and sustainable use of biodiversity, in agreement with the CBD and the Pronabio (National Biodiversity Program). Its specific purpose is to operate a fund for the financial and material support to initiatives associated to the conservation and sustainable use of biodiversity in Brazil, using funds donated by the Global Environmental Facility (GEF). FUNBIO may also receive donations from businesses and other institutions interested in joining the efforts to conserve biological diversity and its sustainable use in Brazil.

Year	Nº of projects	Payments (1,000 R\$)	Payments (US\$ 1,000)
1997	10	85	77
1998	10	1,108	953
1999	13	789	485
2000	28	1,249	1,343
2001	27	3,110	1,758
2002	41	6,112	2,299
2003	31	4,969	1,720
TOTAL		17,422	8,635

Source: FUNBIO Annual Report (2003), http://www.funbio.org.br/publique/web/media/relatorio_2003.pdf

In the last three years, the following projects received support from FUNBIO:

- Black lion tamarin (*Leontopithecus chrysopygus*) – Biodiversity conservation of Atlantic Forest

fragments in the inland portion of São Paulo state;

- Serra das Almas and surrounding area: development of models for the conservation of caatinga biodiversity;
- Hemlock Project [*Projeto Cicuta*]: Protecting the Atlantic Forest in the Medium Paraíba River;
- Improving life quality through agro-biodiversity;
- Monte Alegre Project: biodiversity for community benefit;
- Education and Atlantic Forest restoration in the valley of the Doce river;
- Conserving biodiversity through agroecology;
- Studying Mechanisms for Fish Transposition;
- Cerrado is life [*Cerrado é vida*];
- Communal processing and commercialization of Amazon agro-forestry products;
- Production and commercialization of agro-extractive products from the Cerrado;
- Agro-extractive activities and processing of pulp from Cerrado and Caatinga fruits;
- Consolidation of the Cananéia Oyster Producers Cooperative;
- Improvement of the vegetal oil production and commercialization processes applied by communities at the Tapajós National Forest (PA);
- Fruits of the Cerrado;
- Economic dynamism and the sustainable use of agro-biodiversity: a strategic inter-dependency in the process of developing family agriculture in the center-south of Paraná state;
- Creating economic viability for agro-ecological coffee production around the Caratinga Biological Station (MG);
- Support to the community organizations and associations of artisanal producers of Saco de Mamanguá;
- Organic beef production in the Pantanal;
- Management of quilombola territories – introduction of the Quilombola brand name;
- Lutheria Amazônia School-Shop;
- Sustainable use of the giant South American river turtle by small rural producers of the medium Araguaia river;
- Economic sustainability based on valuing biodiversity in family agricultural systems;
- Fibrarte Project – Synergy for sustainability and citizenship in the Amazon Forest and Atlantic Forest;
- Citizenship for Amazon communities - Synergy for sustainability and citizenship in the Amazon Forest and the Atlantic Forest;
- Medicinal plants and handcrafts as sustainable economic activities – Synergy for sustainability in the Amazon Forest and the Atlantic Forest;
- Inventory of the Forest Resources of the Atlantic Forest – Sustainability and certification in the Atlantic Forest;
- Participatory management of natural and forest resources: constructing a model for the sustainable development of rural communities of the Itacaré - Serra Grande region;

- Tapajós Cabocla Workshops: Communal forest management and mobile handcraft shops: a development model for traditional communities;
- Sustainable development at Vale do Acre;
- Ecotourism Best Practices Program.

Information about the FUNBIO is available at www.funbio.org.br

Sectoral Funds of the Ministry of Science and Technology. See comments in question 89.

State Environment Fund (Goiás state). The State Environment Fund [FEMA – *Fundo Estadual do Meio Ambiente*] is a legal instrument to manage financial and budget resources to support programs, projects and activities related to the rational and sustainable use of environmental resources in the state of Goiás. FEMA is based on the principle of integrated and participatory environmental management, providing transparency for governmental actions related to the environment. It is also an instrument to ensure that resources collected through the enforcement of the environmental legislation are actually used for projects seeking the conservation, restoration and sustainable use of natural resources. The financial resources managed by FEMA come from the payment of licenses, fees, taxes and fines applied by the environmental control activities, and from budget allocations from the State General Budget, as well as from compensations, loans, donations, subventions, grants, transfers, and interest from investments on the financial market. Additional information available at www.semarh.goias.gov.br/fema .

State funds. Many Brazilian states possess state funds similar to the Goiás State Environment Fund. See comments in question 88.

The Society Population and Nature Institute [ISPN – *Instituto População Sociedade e Natureza*] identified 130 funding sources for biodiversity projects. Source: Mapping of Financial Resources Available to Support the Tocantins Sustainable Development [*Mapeamento dos Recursos Financeiros Disponíveis para o Fomento ao Desenvolvimento Sustentável do Tocantins*], Society Population and Nature Institute (ISPN), http://www.ispn.org.br/catalogo_fontes.rtf .

The next question (138) is for DEVELOPED COUNTRIES

138. On Article 20(2), has your country provided new and additional financial resources to enable developing country Parties to meet the agreed incremental costs to them of implementing measures which fulfill the obligations of the Convention?

a) No	
b) Yes (please indicate the amount, on an annual basis, of new and additional financial resources your country has provided)	

Further comments on new and additional financial resources provided.

The next question (139) is for DEVELOPING COUNTRIES OR COUNTRIES WITH ECONOMIES IN TRANSITION

139. On Article 20(2), has your country received new and additional financial resources to enable it to meet the agreed full incremental costs of implementing measures which fulfill the obligations of the

Convention?	
a) No	X
b) Yes	

140. Has your country established a process to monitor financial support to biodiversity, including support provided by the private sector? (decision V/11)

a) No	X
b) No, but procedures being established	
c) Yes (please provide details below)	

Further comments on processes to monitor financial support to biodiversity, including support provided by the private sector.

The support agencies and private sector institutions possess their respective activity reports and financial reports.

141. Has your country considered any measures like tax exemptions in national taxation systems to encourage financial support to biodiversity? (decision V/11)

a) No	X
b) No, but exemptions are under development (please provide details below)	
c) Yes, exemptions are in place (please provide details below)	

Further comments on tax exemptions for biodiversity-related donations.

142. Has your country reviewed national budgets and monetary policies, including the effectiveness of official development assistance allocated to biodiversity, with particular attention paid to positive incentives and their performance as well as perverse incentives and ways and means for their removal or mitigation? (decision VI/16)

a) No	X
b) No, but review is under way	
c) Yes (please provide results of review below)	

Further comments on review of national budgets and monetary policies, including the effectiveness of official development assistance.

143. Is your country taking concrete actions to review and further integrate biodiversity considerations in the development and implementation of major international development initiatives, as well as in national sustainable development plans and relevant sectoral policies and plans? (decisions VI/16 and

VII/21)	
a) No	
b) No, but review is under way	X
c) Yes, in some initiatives and plans (please provide details below)	
d) Yes, in major initiatives and plans (please provide details below)	
Further comments on review and integration of biodiversity considerations in relevant initiatives, policies and plans.	
Federal Government Pluri-annual Plan (2004-2007). See comments in questions 70 and 137.	

144. Is your country enhancing the integration of biological diversity into the sectoral development and assistance programmes? (decision VII/21)	
a) No	
b) No, but relevant programmes are under development	X
c) Yes, into some sectoral development and assistance programmes (please provide details below)	
d) Yes, into major sectoral development and assistance programmes (please provide details below)	
Further comments on the integration of biodiversity into sectoral development and assistance programmes	
Federal Government Pluri-annual Plan (2004-2007). See comments in questions 70 and 137.	

The next question (145) is for DEVELOPED COUNTRIES

145. Please indicate with an "X" in the table below in which area your country has provided financial support to developing countries and/or countries with economies in transition. Please elaborate in the space below if necessary.	
A r e a s	Support provided
a) Undertaking national or regional assessments within the framework of MEA (decision VI/8)	
b) <i>In-situ</i> conservation (decision V/16)	
c) Enhance national capacity to establish and maintain the mechanisms to protect traditional knowledge (decision VI/10)	
d) <i>Ex-situ</i> conservation (decision V/26)	
e) Implementation of the Global Strategy for Plant Conservation (decision VI/9)	
f) Implementation of the Bonn Guidelines (decision VI/24)	
g) Implementation of programme of work on agricultural biodiversity (decision V/5)	

h) Preparation of first report on the State of World's Animal Genetic Resources (decision VI/17)	
i) Support to work of existing regional coordination mechanisms and development of regional and sub regional networks or processes (decision VI/27)	
j) Development of partnerships and other means to provide the necessary support for the implementation of the programme of work on dry and subhumid lands biological diversity (decision VII/2)	
k) Financial support for the operations of the Coordination Mechanism of the Global Taxonomy Initiative (decision VII/9)	
l) Support to the implementation of the Action Plan on Capacity Building as contained in the annex to decision VII/19 (decision VII/19)	
m) Support to the implementation of the programme of work on mountain biological diversity (decision VII/27)	
n) Support to the implementation of the programme of work on protected areas (decision VII/28)	
o) Support to the development of national indicators (decision VII/30)	
p) Others (please specify)	
Further information on financial support provided to developing countries and countries with economies in transition.	

The next question (146) is for DEVELOPING COUNTRIES OR COUNTRIES WITH ECONOMIES IN TRANSITION

146. Please indicate with an "X" in the table below in which areas your country has applied for funds from the Global Environment Facility (GEF), from developed countries and/or from other sources. The same area may have more than one source of financial support. Please elaborate in the space below if necessary.

Areas	Applied for funds from		
	GEF	Bilateral	Other
a) Preparation of national biodiversity strategies or action plans	X		
b) National capacity self-assessment for implementation of Convention (decision VI/27)	X		
c) Priority actions to implement the Global Taxonomy Initiative (decision V/9)			
d) <i>In-situ</i> conservation (decision V/16)	X	X	X
e) Development of national strategies or action plans to deal with alien species (decision VI/23)			

f) <i>Ex-situ</i> conservation, establishment and maintenance of <i>Ex-situ</i> conservation facilities (decision V/26)			
g) Projects that promote measures for implementing Article 13 (Education and Public Awareness) (decision VI/19)			
h) Preparation of national reports (decisions III/9, V/19 and VI/25)	X		
i) Projects for conservation and sustainable use of inland water biological diversity (decision IV/4)	X		
j) Activities for conservation and sustainable use of agricultural biological diversity (decision V/5)			
k) Implementation of the Cartagena Protocol on Biosafety (decision VI/26)			
l) Implementation of the Global Taxonomy Initiative			
m) Implementation of the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity			
n) Others (please specify)			

Further information on application for financial support.

Brazil receives a large portion of its funds to support biodiversity conservation actions from the Global Environmental Facility (GEF). The main projects funded by GEF in Brazil are listed below:

- a) the "National Biodiversity Project (PROBIO)", Full Size Project, implemented through IBRD, executed in Brazil by MMA/SBF and CNPq;
- b) the "National Biodiversity Strategy and National Report", Full Size Project, implemented through UNDP, Contract (BRA/97/G31) executed in Brazil by MMA/SBF;
- c) the "Brazilian Biodiversity Fund (FUNBIO)", Full Size Project, implemented through IBRD, executed in Brazil by Fundação Getúlio Vargas – FGV;
- d) the "Small Grant Program – Cerrado", Medium Size Project, implemented through UNDP & UNOPS, executed in Brazil by ISPN (*Instituto Sociedade População e Natureza*);
- e) the "Establishment of Private Natural Heritage Reserves in the Brazilian Cerrado", Medium Size Project, implemented through UNDP, executed in Brazil by FUNATURA;
- f) the "Alternatives to Slash and Burn – ASB (Phase I and II)" Full Size Project, implemented through UNDP, executed in Brazil by EMBRAPA;
- g) the "Conservation and Sustainable Management of Below Ground Biodiversity - BGBD (Phase I)" Full Size Project, implemented through UNEP, executed in Brazil by Universidade Federal de Lavras;
- h) the "People, Land Management, and Environmental Change – PLEC" Full Size Project, implemented through the UNEP, executed in Brazil by Universidade Federal do Pará – UFPA;
- i) the "Biodiversity Enterprise Fund for Latin America – Terra Capital Fund" Full Size Project, which funded sustainable use activities, through the World Bank & IFC, executed in Brazil by A2R Ltda. and Sustainable Development Inc.;
- j) the "Indicator Model for Dryland Ecosystems in Latin America" Medium Size Project, implemented

through the UNEP, executed in Brazil by Fundação Grupo Esquel;

l) the “Integrated Watershed Management Practices for the Pantanal and Upper Paraguay River Basin” Full Size Project, implemented through the UNEP & OAS, executed in Brazil by MMA/ANA;

m) the “Global Ballast Water Management Programme – Globallast” Full Size Project, implemented through the UNDP & IMO, executed in Brazil by MMA/SQA;

n) the “Amazon Region Protected Areas Program – ARPA” Full Size Project, implemented through the World Bank, executed by the Brazilian Biodiversity Fund – FUNBIO in partnership with the Ministry of the Environment - MMA/SBF and IBAMA;

o) the “Biodiversity Conservation and Sustainable Use in the Frontier Forests of Northwestern Mato Grosso” Full Size Project, implemented through the UNDP, executed by FEMA-MT and Pró-Natura;

p) the “Demonstrations of Integrated Ecosystem and Watershed Management in the Caatinga” Full-Size Project, implemented through the UNDP, executed by the Ministry of the Environment - MMA/SBF;

q) the “Paraná Biodiversity Project” Full Size Project, implemented through the World Bank, executed by the State Government of Paraná;

r) the “Rio de Janeiro Integrated Ecosystem Management in Production Landscapes of the North-Northwestern Portion of the State” Full-Size Project, implemented through the World Bank, executed by the Rio de Janeiro State Secretariat of Agriculture, Fisheries and Rural Development (SEAAPI);

s) the “Building the Inter-American Biodiversity Information Network – IABIN”, Full Size Enabling Activity Project, implemented through the World Bank, executed in Brazil by MMA/SBF [regional project involving the following countries: Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, Uruguay, Venezuela].

Brazil is also negotiating with GEF the approval of 12 other project on biodiversity:

a) the “Integrated Management of Freshwater Biodiversity and Water Resources in the Amazon - AquaBio”, under negotiation with the World Bank & UNESCO and with a PDF-B approved by the GEF, to be implemented by the Ministry of the Environment – MMA/SBF and partners;

b) the “Biodiversity Conservation and Sustainable Use of Globally Important Mangrove Ecosystems in Protected Areas of Brazil”, under negotiation with the UNDP, to be implemented by the Ministry of the Environment – MMA/SBF and partners [this proposal substitutes the regional project “Preserving Biodiversity and Socio-Economic Value of Mangrove Ecosystems in Tropical America” which had an earlier PDF-B approved by the GEF for Brazil, Colombia, Costa Rica and Ecuador];

c) the “Sustainable Cerrado Program”, under negotiation with the World Bank and with GEF Pipeline Approved, to be implemented by the Ministry of the Environment – MMA/SBF and the State Governments of Goiás, Tocantins and Federal District;

d) the “Formoso River - Integrated Watershed Management and Protection” Medium-Size Project, through the World Bank, implemented by EMBRAPA SOLOS & Conservation International - Brazil;

e) the “Ecosystem Restoration of Riparian Forests in São Paulo”, under negotiation with the World Bank, to be implemented by the São Paulo State Secretariat of the Environment (SMA);

f) the “Biodiversity Conservation to Contribute to the Development of Rio Grande do Sul State”, under

negotiation with the World Bank, to be implemented by the State Government of Rio Grande do Sul;

g) the “Conservation and Management of Pollinators for Sustainable Agriculture through an Ecosystem Approach”, under negotiation with the UNEP & FAO and with a PDF-B approved by the GEF for Brazil, Ghana, India, Kenya, Nepal, Pakistan and South Africa, to be implemented in Brazil by the Ministry of the Environment – MMA/SBF and partners;

h) the “Provision and Use of Plant Taxonomic Information essential for the Conservation, Sustainable Use and Benefit Sharing of Neotropical Biodiversity”, under negotiation with the UNDP & UNEP, with a PDF-A approved by the GEF for Brazil, Colombia and Mexico, to be implemented in Brazil by the Ministry of the Environment – MMA/SBF and partners;

i) the “Whole Forest Observatories: An international network for Monitoring Canopy Biodiversity and Global Climate Change”, under negotiation with the UNEP, involving the countries Brazil, Ghana, India, Madagascar and Malaysia, to be implemented in Brazil by the National Institute for Amazon Research – INPA;

j) the “Integrated Management and Conservation of key Grasslands in “Mercosur” countries of the Southern Cone of South America”, under negotiation with the World Bank, involving the countries Argentina, Brazil, Paraguay and Uruguay, to be implemented by the NGO BirdLife International;

k) the “Implementing the Global Strategy for Plant Conservation: Identification of Threatened Plant Species and Protection of Important Plant Areas in Ten Priority Countries”, under negotiation with the UNEP, involving the countries Brazil, Colombia, Costa Rica, Ecuador, Gabon, Madagascar, Morocco, PDR Lao, Philippines, Russia, Sri Lanka and Turkey;

l) the “Mainstreaming Biodiversity Conservation into Coffee Production and Sales through Private Sector Sourcing Partnerships”, under negotiation with the UNDP, involving the countries Guatemala, Honduras, Brazil, El Salvador and Peru.

In summary, until the end of 2005, Brazil will have implemented 18 biodiversity projects funded by GEF. Of these, only 3 have a national scope (National Biodiversity Strategy, PROBIO and FUNBIO), 7 are global projects, and 8 have a sub-national scope (1 for the Amazon, 1 for the Cerrado, 1 for the Pantanal, 1 for the Caatinga, and 2 for the Atlantic Forest).

Box XXII .

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) The activities of funds such as FNMA and FUNBIO have proved important for CBD implementation and for the implementation of other environmental conventions. It can be stated that most actions conducted for CBD implementation are executed with foreign funds,

mostly provided by GEF.

- b) The mentioned initiatives contribute towards achieving Objective 2 of the CBD Strategic Plan (Parties have improved financial, human, scientific, technical, and technological capacity to implement the Convention). Even though most resources available in Brazil to fund CBD implementation are of foreign origin, these resources are crucial to allow the construction of Brazilian capacity, autonomy and resource generation to implement the Convention.
- c) The mentioned initiatives contribute towards achieving Objective 11 of the CBD 2010 Goals (That Parties improve financial, human, scientific, technical and technological capacities to implement the Convention).
- d) The mentioned initiatives contribute to the implementation of Component 7 of the National Biodiversity Policy.
- e) The mentioned actions contribute towards achieving Objective 7 (Ensure Environmental Sustainability) and 8 (Establish a Global Partnership for Development) of the MDGs.
- f) Lack of resources, poverty.

D. THEMATIC AREAS

147. Please use the scale indicated below to reflect the level of challenges faced by your country in implementing the thematic programmes of work of the Convention (marine and coastal biodiversity, agricultural biodiversity, forest biodiversity, inland waters biodiversity, dry and sub-humid lands and mountain biodiversity).

3 = High Challenge

1 = Low Challenge

2 = Medium Challenge

0 = Challenge has been successfully overcome

N/A = Not applicable

Challenges	Programme of Work					
	Agricultural	Forest	Marine and coastal	Inland water ecosystem	Dry and subhumid lands	Mountain
(a) Lack of political will and support	2	2	3	3	3	2
(b) Limited public participation and stakeholder involvement	2	2	2	2	2	3
(c) Lack of mainstreaming and integration of biodiversity issues into other sectors	3	3	3	3	3	3
(d) Lack of precautionary and proactive measures	3	2	3	3	3	3

(e) Inadequate capacity to act, caused by institutional weakness	3	3	3	3	3	3
(f) Lack of transfer of technology and expertise	2	2	3	2	3	3
(g) Loss of traditional knowledge	3	3	3	3	3	3
(h) Lack of adequate scientific research capacities to support all the objectives	2	2	2	2	2	2
(i) Lack of accessible knowledge and information	2	2	2	2	2	2
(j) Lack of public education and awareness at all levels	3	2	3	3	3	3
(k) Existing scientific and traditional knowledge not fully utilized	3	3	3	3	3	3
(l) Loss of biodiversity and the corresponding goods and services it provides not properly understood and documented	3	3	3	3	3	3
(m) Lack of financial, human, technical resources	2	2	3	3	3	3
(n) Lack of economic incentive measures	3	3	3	3	3	3
(o) Lack of benefit-sharing	3	3	3	3	3	3
(p) Lack of synergies at national and international levels	3	2	2	2	3	2
(q) Lack of horizontal cooperation among stakeholders	2	2	2	2	2	2
(r) Lack of effective partnerships	2	2	2	2	2	2
(s) Lack of engagement of scientific community	2	2	2	2	2	2
(t) Lack of appropriate policies and laws	2	2	2	2	3	2
(u) Poverty	3	3	3	3	3	3
(v) Population pressure	3	3	3	3	3	3

(w) Unsustainable consumption and production patterns	3	3	3	3	3	3
(x) Lack of capacities for local communities	3	3	3	3	3	3
(y) Lack of knowledge and practice of ecosystem-based approaches to management	3	3	3	3	3	3
(z) Weak law enforcement capacity	3	3	3	3	3	3
(aa) Natural disasters and environmental change	2	2	2	2	2	2
(bb) Others (please specify)						

Inland water ecosystems

148. Has your country incorporated the objectives and relevant activities of the programme of work into the following and implemented them? (decision VII/4)

Strategies, policies, plans and activities	No	Yes, partially, integrated but not implemented	Yes, fully integrated and implemented	N/A
a) Your biodiversity strategies and action plans		X		
b) Wetland policies and strategies		X		
c) Integrated water resources management and water efficiency plans being developed in line with paragraph 25 of the Plan of Implementation of the World Summit on Sustainable Development	x			
d) Enhanced coordination and cooperation between national actors responsible for inland water ecosystems and biological diversity		X		

Further comments on incorporation of the objectives and activities of the programme of work

Sectoral Fund for Hydrological Resources (CT – HIDRO). Capacity building of human resources and development of products, processes and equipment with the purpose of improving hydrological resource use, through the implementation of actions for hydrological resource management, water conservation in the urban environment, sustainability at Brazilian ecosystems, and the integrated and efficient water use. The executing institutions are: Financing Agency for Research and Projects [FINEP – *Financiadora de Estudos e Projetos*] and the National Scientific and Technological Development Council [CNPq – *Conselho Nacional de Desenvolvimento Científico e Tecnológico*]. Resources come from a 4% share of the financial compensation currently collected by the energy generation companies (which is equivalent to 6% of the value of electric energy production and generation). Additional information at http://www.mct.gov.br/Fontes/Fundos/cts/cthidro/ct_hidro.htm.

National Biodiversity Policy.

Component 1 of the National Biodiversity Policy has the objective of *generating, systematizing and making available information for the biodiversity management in the biomes, and for the management of biodiversity function, as well as for the maintenance of terrestrial and aquatic ecosystems, including jurisdictional waters. Promote the knowledge on Brazilian biodiversity, its distribution, its determining factors, its value, its ecological function and its potential economic use.*

The specific objective 1.11 of Component 2 predicts the establishment of a national initiative for the conservation and restoration of biodiversity in inland waters, at the coastal zone and the marine zone.

The specific objective 2.18 of Component 4 of the National Biodiversity Policy predicts the support to studies of impacts on biodiversity at the various watersheds, especially concerning riparian forests, headwaters, water sources and other permanent preservation areas, and critical areas for the conservation of

hydrological resources.

The specific objective 3.11 of Component 4 of the National Biodiversity Policy predicts the promotion of biodiversity recuperation, restoration, revitalization and conservation in the various watersheds, especially in riparian forests, headwaters, water sources and other permanent preservation areas, and critical areas for the conservation of hydrological resources.

National Hydrological Resources Policy

The Water Law instituted in 1997 the National Policy and the National System for Hydrological Resource Management. The Water Law has the main objective of ensuring the availability of quality water to future generations, through the application of the sustainable development concept. The Water Law establishes directives to its implementation: the integration of hydrological resource management with environmental management; the coordination of hydrological resource management with soil use; the integration of watershed management with the management of coastal and estuarine systems; and the coordination of hydrological resources planning with the user sector and the regional, state and national planning. The Water Law defines that the management of Brazilian hydrological resources has the watershed as planning unit, which is an innovative approach for Brazilian environmental management systems. The Law also predicts public participation in the decision-making processes, through the establishment of watershed committees. The Program for Supervising the Implementation of the Hydrological Resources Policy in Brazil has the purpose of identifying the necessary actions for the decision-making process and for the implementation of the Hydrological Resources Policy in the country, and has the following objectives:

- Supervise, evaluate and demonstrate, in a systematized manner, the status of the implementation of the Hydrological Resources Policy in Brazil;
- Identify the necessary stimulus and support actions for this implementation and create mechanisms to facilitate these actions;
- Identify the need of SRH/MMA participation in the various sectoral fora for defining governmental policies and programs;
- Support the elaboration and definition of sectoral policies which respect the directives of the National Hydrological Resources Policy; and
- Propose policies related to hydrological resources, to complement the existing policies.

Additional information at <http://www.mma.gov.br/port/srh/index.cfm>.

Project for the Integrated Management of Aquatic Biodiversity and Hydrological Resources in the Amazon (AquaBio). The ecosystems of the Amazon rivers of clear and dark water and their plains subject to periodic flooding (which are the project targets) contain a rich diversity of aquatic flora and fauna, which is of global importance. Approximately 58% of the Amazon Watershed is located in Brazil, which places the country among those possessing the greatest biodiversity richness in the world. Preliminary data indicate that the Amazon Watershed contains approximately 30% of the freshwater fish species, most of them endemic. Although lower, the percentage of global amphibian, reptile, aquatic birds and invertebrate species which occur in the Amazon is highly significant. Currently, the main threats to the Amazon aquatic biodiversity are the conversion of periodically flooded areas (flood plains and igapós [*flooded forests*]) into agriculture and pasture areas, the indiscriminate timber exploitation, changes in river regimes due to the construction of hydroelectric dams and navigation channels (waterways),

deterioration of water quality due to prospecting activities, urban, industrial and agriculture chemicals effluents. The project objectives are:

- To promote strategic actions for the implementation of the Integrated Management of Aquatic Biodiversity and Hydrological Resources [GIBRAH – *Gestão Integrada da Biodiversidade Aquática e Recursos Hídricos*], which allow the internalization of aquatic biodiversity conservation and sustainable use objectives into the policies and programs for the sustainable development of the Amazon; and
- To generate and share experiences which promote GIBRAH in the Amazon in the long term, as a means of reducing threats to watershed integrity and of ensuring the conservation and sustainable use of its aquatic biodiversity of global importance.

Additional information at <http://www.mma.gov.br/port/sbf/chm/aquabio/aquabio.html>.

Flood Plain Natural Resources Management Project (PROVARZEA). See comments in question 72.

Combat to the Chinese freshwater mussel (golden mussel). See comments in question 47.

National Water Agency [ANA – Agência Nacional de Águas]. ANA (<http://www.ana.gov.br>) is the agency responsible for regulating the use of Brazilian inland waters. The institution executes a series of programs for improving water management, among which the following may be highlighted for their importance to the conservation and sustainable use of biodiversity:

- **PROBACIAS.** Program of the Federal Government Pluri-annual Plan, with the objective of implementing the Integrated Hydrological Resources Management System in the Watersheds. The Program recorded significant progress in 2004, especially concerning the consolidation of the main instruments of the National Hydrological Resources Management System, resulting from the technical efforts and the structuring of coordination among the involved parties. In addition to the results achieved in partnership with the Brazilian states and the Federal District, most of which already possess legislation on hydrological resources policy and management system, a process of significant expansion of actions conducted within watersheds also occurred. Hydrological Resources Plans were consolidated for strategic watersheds, and the structuring of geo-referenced databases for the Hydrological Resources Information System (Hidro) was promoted. Progress was obtained in the legal base which provides sustainability to the processes of charging fees for the use of hydrological resources, especially with the institution of Law nº 10881 of June 2004, which rules on the Management Contract involving the entity to which the functions of Watershed Agency will be delegated, among other important progress implemented within the watershed committees.

- **Water Conservation, Rational Use and Quality.** The Program for water conservation and rational use has the following purposes: (a) to preserve water availability in nature, through soil and water conservation measures developed within watersheds; (b) to reduce losses along the water provisioning structure for diverse uses, through the implementation of adequate technology, incentives and economic instruments to encourage greater efficiency in water use by production processes, especially by irrigation, sanitation and industry; (c) to minimize water waste seeking the rational use and the utilization at the limit of actual necessity; (d) to reduce water consumption by promoting water recycling in open or closed circuits; (e) to reduce the quantity of new water collection points from natural sources, through adequate re-utilization practices on sustainable basis; (f) to preserve natural water quality, through the adequate conditioning of residual waters before they are disposed into natural water systems.

- **WATERSHED CLEAN-UP PROGRAM [PRODES – Programa de Despoluição das Bacias Hidrográficas]**. This program was created by ANA in March 2001, to provide incentives to the construction of waste water treatment plants, with the purpose of reducing pollution levels in the country's hydrological resources, while inducing the implementation of the National Hydrological Resources Management System, which was defined by Law nº 9433, of 08 January 1997. PRODES, also known as "Acquisition of Treated Waste Water Program", is an innovative initiative: instead of financing construction or equipment, it pays for the effectively treated waste water. PRODES consists of the concession of financial incentives provided by the Federal Government in the form of payment for treated waste water to the Sanitation Service Providers, which invest in the establishment and operation of Waste Water Treatment Plants [ETE – *Estações de Tratamento de Esgoto*]. The Contract for the Acquisition of Treated Waste Water is signed between the Federal Government through ANA and the Sanitation Service Provider, which may be a public or private entity. Transfer of resources is only authorized after the conclusion of the construction works, and after the ETE becomes operational. This contract also defines the required pollution reduction levels to be obtained by the ETE, the amount of financial incentives to be provided by ANA, and the payment timeline. The financial incentives provided by ANA are equivalent to 50% of the ETE investment cost. Even though Brazil has historically subsidized the construction of sanitation infrastructure, the results obtained by these governmental actions have sometimes not achieved their main objectives. One of the reasons for this is the subsidy model adopted by the government, which focuses on the construction works. By transferring this focus to the results, as proposed by PRODES, these problems tend to be minimized. Additional information at <http://www.ana.gov.br/prodes>.

- **STRATEGIC ACTION PROGRAM FOR THE INTEGRATED MANAGEMENT OF THE PANTANAL AND HIGH PARAGUAI RIVER WATERSHED (PAE; GEF-PANTANAL)**. The PAE is a short-term instrument with prioritized strategic actions to be implemented following its approval by the Brazilian government, GEF, UNEP and OEA. The strategic actions included in PAE are fundamental for the establishment of structures or instruments to allow the integrated management of the Watershed, the correction of critical problems, the restoration of borderline situations, and to ensure environmental sustainability in the watershed. The PAE allows the filling of gaps in natural resource management, by identifying structuring vectors such as biodiversity, hydrological environment, and human action. These vectors lead PAE to examine the Pantanal and the High Paraguai River Watershed through the perspective of the ecoregion and its sustainability, considering the various environmental aspects involved, and especially emphasizing the hydrological resources. PAE should be implemented from 2004 to 2007, and has the objective of proposing a series of actions to establish the integrated management and, through it, to: promote institutional strengthening and public participation; improve ecosystem environmental function; contribute to the sustainable development of the region and, especially, of the regional hydrological resources.

Within this context, PAE elaboration will also contribute to the constitution of local structures for watershed management, as required by Law nº 9433, of 08 January 1997. Additional information at <http://www.ana.gov.br/gefap>.

- **SÃO FRANCISCO GEF PROJECT**. This project has the main objective of preparing a strategic action program, considering the causes of the progressive degradation of the watershed, which also affects the coastal ecosystems, thus complementing the large-scale projects conducted by the Brazilian government. This is the Strategic Action Program for the Integrated Management of the São Francisco River Watershed and its Coastal Zone [PAE – *Programa de Ações Estratégicas*]. UNEP is the implementing agency of this GEF project, and OEA and ANA are respectively the international and national executing agencies. In

order to study the critical problems identified in the Watershed, the actions of the Sub-projects included in the São Francisco GEF Project were divided into four Components: ENVIRONMENTAL ASSESSMENT OF THE WATERSHED AND ITS COASTAL ZONE; PUBLIC AND INSTITUTION PARTICIPATION; DEVELOPMENT OF THE ORGANIZATIONAL STRUCTURE; and ELABORATION OF THE INTEGRATED WATERSHED MANAGEMENT PROGRAM. Additional information at <http://www.ana.gov.br/gefsf>.

Pantanal Sustainable Development Program. This is a program of the Federal Government Pluri-annual Plan, with the objective of promoting the sustainable development of the High Paraguai River Watershed, by providing incentives to the economic activities which are compatible with the ecosystem. The program is executed by the Executive Secretariat of the Ministry of the Environment.

Freshwater Program. Executed by WWF-Brazil, this program has the following objectives:

- To develop watershed management models and to work for the expansion of the protected wetlands through the creation of Conservation Units.
- To provide assistance to the restructuring of the country's hydrological resources management by promoting the vision of water as a living system, which must be preserved for the present and future society benefit.
- To propitiate the integrated management of hydrological resources in the country to satisfy society's demand, while ensuring the conservation of freshwater ecosystems.
- To strengthen the public policies and institutions responsible for hydrological resources management, by promoting an ecosystem approach of the watershed.
- To develop operating models for the priority Watershed Committees, focusing and strengthening public participation, integrated soil use, and hydrological resources management.
- To implement and document management models for various aquatic resources.
- To build awareness among the general public, government sectors and private sector, concerning the importance of conserving and managing hydrological resources, with the purpose of optimizing its various uses and maintaining the natural ecological processes.
- To develop environmental education programs for the riverside communities at priority watersheds.

The project executes its actions in partnership with various sectors of the Brazilian society, including ANA, which is responsible for implementing Law n^o 9433, which instituted the National Hydrological Resources Policy. During implementation, the Program will select the areas where demonstrative field projects will be developed according to basic studies, which will identify critical sectors of water consumption and degradation. Periodic evaluations are planned on the status of Brazilian hydrological resources, including environmental quality analyses and analyses of the management processes concerning theme-specific environmental education actions. Additional information available at http://www.wwf.org.br/projetos/default.asp?module=tema/programa_agua.htm.

Pure Water Project. Executed by Terra Mirim Foundation [FTM – *Fundação Terra Mirim*] from 2001 to 2003, this project had the objective of determining the environmental quality of the Rio Itamboatá sub-watershed (a tributary of the Joanes river, in the Municipality of Simões Filho, Bahia), and developing restoration and preservation actions for its banks, with user participation, through educative and environmental management practices. Additional information at www.terramirim.org.br.

Mapping and biotic characterization of the natural and semi-natural remnants at Watersheds in Rio Grande do Sul. The project intends to elaborate the diagnosis of the current status of the vegetation cover and associated wildlife at the state watersheds, indicating the needs for ecosystem preservation and habitat restoration, as well as recommendations on use limitation, being an excellent planning instrument for space use and natural resource use in the watershed. The project also intends to provide assistance to the watershed committees in the elaboration of development plans for watersheds and programs, such as Inland Sea, Uruguai River Watershed, North Coast, and Pró-Guaíba. Additional information at www.fzb.rs.gov.br.

Program for the Conservation of the Rio Cuiabá Watershed – MT. The Cuiabá Watershed Program is executed by The Nature Conservancy and consists of 4 components which, when integrated, promote the conservation of the watershed's aquatic ecosystems and the sustainable use of water and natural resources. The component for the recuperation of degraded areas in the headwaters of the Cuiabá river will promote the restoration of riparian forests by planting seedlings of native species, terracing, isolating eroded areas, constructing plant nurseries at the municipalities, and conducting extension and training programs for producers. The component for the ecologically sustainable water management will promote the restoration of the natural hydrological regime in the Cuiabá river, involving all agents directly or indirectly related to water use in the watershed. The component for the conservation of fisheries resources will be developed through a radio-telemetry monitoring system of the bio-indicator species *Salminus maxillosus*, a freshwater teleost fish. The results of the monitoring will be important for the definition of the natural flow standards and for the conservation of the habitats used by this species for reproduction, resulting in sustainable fishing activities in the watershed. Finally, the component for conservation on private lands will promote the development of innovative economic instruments for biodiversity protection on private lands in the region.

Paraguaçu Headwaters Project. The project is being implemented at the high portion of the Paraguaçu watershed and encompasses 16 municipalities. The objective of the project is to improve water quality and ensure water availability at the High Paraguaçu Watershed, contributing to regional sustainable development and to improve life quality. In addition, the project aims at: promoting the use of environmentally sustainable agriculture and cattle-breeding techniques; executing environmental vigilance activities concerning health matters, emphasizing the control of agro-chemicals in the water for human consumption; protecting headwater areas and preserving and/or restoring riparian forests at small properties; promoting the integrated management of solid waste, acting on the planning and operation of these services, and on the adequate final destination. The project actions are based on the creation of a local participation network, incorporating and strengthening local initiatives during the development of all project stages.

Improvement of the Water Quality Monitoring System at the Rio Paraguaçu Watershed, ensuring its effectiveness as an environmental control instrument. Among other reasons, the Rio Paraguaçu Watershed was selected as pilot area due to its extension, diversity of hydrological resources, and for the existence of various environmental problems, such as mining, mineral prospection, and irrigation projects next to the water courses, which are polluting activities requiring severe environmental control.

The general objective of the program is the increase of knowledge on water quality and quantity in the watershed, through the expansion and operation of a Basic Monitoring Network to improve the impacting activities management and control system, and to support the elaboration of policies for protecting existing hydrological resources, aiming at the protection of aquatic communities and life quality improvement for the populations living in the municipalities of the watershed. The project also includes the following objectives: training of technicians on hydrological resource management; making information available on water quality and quantity, in a useful format for decision-making processes at the various levels of society; and promoting coordination among the agents involved in the processes of hydrological resource management and environmental control. As main results, the project restructured the monitoring network, expanding the sampling area to 49 collection points. The project also allows greater integration among CRA and SRH in hydrological resources management, propitiating the conduction of studies for the Use of the Hydrological Resources Database [BDRH – *Banco de Dados de Recursos Hídricos*], operated by SRH for the storage of data on product quality and generation. The project also plans the publication of metadata, summary tables containing primary data from sample analysis, and an interactive thematic map.

149. Has your country identified priorities for each activity in the programme of work, including timescales, in relation to outcome oriented targets? (decision VII/4)

a) No	
b) Outcome oriented targets developed but priority activities not developed	
c) Priority activities developed but not outcome oriented targets	X
d) Yes, comprehensive outcome oriented targets and priority activities developed	

Further comments on the adoption of outcome oriented targets and priorities for activities, including providing a list of targets (if developed).

Even though Brazil has not defined goals related to the goals of the program of work, the innumerable actions being conducted on the management of inland waters significantly contribute to the implementation of the program of work, since the Brazilian environmental actions are guided by CBD and other international environmental treaties, including Agenda 21. Considering that these treaties are mutually concordant, the actions related to hydrological resource management, for example, although not directed specifically to biodiversity conservation, are guided by principles that favor biodiversity conservation. The comments concerning the National Biodiversity Policy and the National Hydrological Resources Policy, presented for the previous question, demonstrate the Brazilian priorities concerning biodiversity management, hydrological resource management, and their interfaces.

150. Is your country promoting synergies between this programme of work and related activities under the Ramsar Convention as well as the implementation of the Joint Work Plan (CBD-Ramsar) at the national level? (decision VII/4)

a) Not applicable (not Party to Ramsar Convention)	
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- b) No
- c) No, but potential measures were identified for synergy and joint implementation
- d) Yes, some measures taken for joint implementation (please specify below)
- e) Yes, comprehensive measures taken for joint implementation (please specify below)

X

Further comments on the promotion of synergies between the programme of work and related activities under the Ramsar Convention as well as the implementation of the Joint Work Plan (CBD-Ramsar) at the national level.

The **unnumbered Presidential Decree, of 23 October 2003**, created the **National Wetlands Committee [CNZU - Comitê Nacional de Zonas Úmidas]**. This Committee is composed by representatives of governmental agencies (MRE, all Secretariats of MMA, special advisory to the Minister of the Environment, ANA, IBAMA, FUNAI, ABEMA), of the Ramsar Sites, of the CBD focal point in Brazil, of the business sector (CNA), of the academic and scientific community, and of non-governmental organizations.

The elaboration of a **National Wetlands Diagnosis** is currently under way, in partnership with WWF. This diagnosis has the objective of constructing a vision about the state of the art of the main types of Brazilian wetlands, provide recommendations about the necessary legislation for a better conservation of these habitats, and to indicate potential areas to compose the List of Wetlands of International Importance. Thus, in a general sense, this diagnosis has the purpose of providing the technical basis for the definition of national policies and for the construction of a national strategy for wetlands.

Brazil possesses 8 **recognized RAMSAR Sites**:

- Mamirauá Sustainable Development Reserve (AM), with 1,124,000 ha;
- Baixada Maranhense Environmental Protection Area (MA), with 1,775,035 ha;
- Lagoa do Peixe National Park (RS), with 34,400 ha;
- Reentrâncias Maranhenses Environmental Protection Area (MA), with 2,680,911 ha;
- Parcel de Manuel Luiz Marine State Park (MA), with 34,556 ha;
- Araguaia National Park (TO), with 562,312 ha;
- Pantanal Matogrossense National Park (MT), with 135,000 ha;
- SESC Pantanal Private Reserve of the Natural Heritage, with 87,871.44 ha.

Two funds were established to fund projects for the implementation of the Ramsar Convention: the SMALL GRANTS FUND and WETLANDS FOR THE FUTURE.

Regional and international cooperation – a highlight within this cooperation is the project proposal to be funded by GEF: “Aquatic migratory birds as indicators of conservation and management quality at Wetlands of the South America Cone”, in partnership with CEMAVE/IBAMA.

During the last few years, the commitments undertaken by Brazil under the Convention have been gradually implemented through activities directly related to: publication of information; coordination; participation in events; planning of an Integrated Wetlands System involving the five countries comprising the Rio da Prata watershed; partnerships to install “Green Rooms” at the Ramsar Sites; in addition to

some publications. Additional information is available at <http://www.mma.gov.br/port/sbf/dap/ramsar.html>.

Elaboration of Management Plans for Marine and Coastal Federal Conservation Units. From 2002 to 2004, the management plans of the following conservation units were elaborated or revised:

- Comboios Biological Reserve (2002);
- Carijós Ecological Station (2002);
- Lençóis Maranhenses National Park (2003);
- Lagoa do Peixe National Park (2004);
- Arvoredo Marine Biological Reserve (2004);
- Guapimirim Environmental Protection Area (2004).

Management Plans are currently being elaborated for the following conservation units:

- Cairuçú Environmental Protection Area;
- Fernando de Noronha Environmental Protection Area;
- Restinga de Jurubatiba National Park;
- Tijuca National Park;
- Tamoios Ecological Station;
- Atol das Rocas Biological Reserve.

RUMAR: See comments in question 38.

151. Has your country taken steps to improve national data on: (decision VII/4)

Issues	Yes	No	No, but development is under way
a) Goods and services provided by inland water ecosystems?			X
b) The uses and related socioeconomic variables of such goods and services?			X
c) Basic hydrological aspects of water supply as they relate to maintaining ecosystem function?			X
d) Species and all taxonomic levels?			X
e) On threats to which inland water ecosystems are subjected?			X

Further comments on the development of data sets, in particular a list of data sets developed in case you have replied "YES" above.

Wetlands Reference Center. Developed by Ecoa [Ecology and Action – *Ecologia e Ação*], this project has the objective of socializing information on wetlands, facilitating access to information for various social sectors. Its collection is constantly being expanded, and it is constituted by various materials such

as books, journals, pamphlets, projects, programs, reports, independent evaluations, monographs, theses, videotapes, maps, among others. Information at <http://www.riosvivos.org.br/crau/> .

Status and priority conservation actions of marshes and wetlands of the coastal zone. This study assessed the status of knowledge on and conservation of biodiversity along the Brazilian coast, divided into 45 units. The results are available at <http://www.bdt.fat.org.br/workshop/costa/banhado> .

Support Nucleus for Research on Human Populations in Brazilian Wetlands [NUPAUB – Núcleo de Apoio a Pesquisa sobre Populações Humanas em Áreas Úmidas Brasileiras]. This is an interdisciplinary research center connected to the Research Office of the President of the São Paulo University, created in 1988 (initially as a Research Program) to study the relations between human populations and periodically flooded areas in Brazil. Its objectives are:

- To develop and disseminate interdisciplinary research projects with the purpose of studying and conserving biological and cultural diversity at Brazilian wetland ecosystems;
- To establish and maintain a documentation center and an information system at the national level;
- To promote courses, meetings and conferences;
- To maintain interchange with national and international entities;
- To provide technical and scientific support to social movements seeking the improvement of life conditions at local communities.

The following were defined as priority areas for research:

- Biological and cultural diversity at coastal and continental periodically flooded areas;
- Production and reproduction of traditional human communities;
- Conflicts between human communities and Protected Natural Areas;
- Strategies for the sustainable use of natural resources.

NUPAUB published 25 books since its creation. Additional information at <http://www.usp.br/nupaub>.

Limnological studies of the lakes on the North and South Mountain Ranges, at the Carajás National Forest. Executed by the Vale do Rio Doce Company [CVRD – *Companhia Vale do Rio Doce*], this project has the objective of studying the lentic aquatic habitats of the Carajás North and South Mountain Ranges to broaden scientific knowledge, with the purpose of understanding the structure and function of these habitats. This knowledge will support the definition of actions to harmonize their conservation with the rational use of the areas where they are located, through activities developed by CVRD or other institutions. The project includes the following activities:

- Contribution to the scientific knowledge on the aquatic habitats of the Carajás National Forest with peculiar location and morphogenesis;
- Elaboration of a list classifying the regional lentic aquatic habitats according to their main limnological characteristics;
- Organization of the habitats according to the degree of limnological similarity, as a tool to verify possible similarities among systems;
- Inventory of animal and plant species of the aquatic habitats;
- Assessment of aquatic biodiversity, especially concerning species richness;
- Lake classification according to the degree of priority for the development of biodiversity

conservation actions;

- Definition of priority actions for research and/or management of the various lakes;
- Definition of actions to harmonize conservation of these environments with CVRD activities.

The project initiated in 2004 and should be concluded in 2008. Its main results are:

- Elaboration of a Limnology Program for the Carajás National Forest;
- Scientific Publications and Presentation of Results at Congresses and Similar Scientific Events;
- Maps of the Limnological Characterization of Aquatic Habitats;
- Biodiversity Lists, including the classification of Aquatic Habitats;
- Development of a Limnology Program for the Carajás National Forest, including detailed environmental education studies.

152. Has your country promoted the application of the guidelines on the rapid assessment of the biological diversity of inland water ecosystems? (decision VII/4)

a) No, the guidelines have not been reviewed	X
b) No, the guidelines have been reviewed and found inappropriate	
c) Yes, the guidelines have been reviewed and application/promotion is pending	
d) Yes, the guidelines promoted and applied	

Further comments on the promotion and application of the guidelines on the rapid assessment of the biological diversity of inland water ecosystems.

Box XXIII.

Please elaborate below on the implementation of this programme of work and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) By adopting the watershed as a management unit, decentralizing the management of hydrological resources, and by ensuring public participation in the decision-making processes, the National Hydrological Resources Policy is obtaining important results, which are reflected in the conservation of biodiversity of inland waters. This Policy is promoting the horizontal (among the various federal programs) and vertical coordination, thus minimizing the duplication of efforts and promoting synergy among initiatives. Therefore, the management of Brazilian inland waters can be considered as under development. Other

outcomes are the valuation of water as an economical asset, Water Use Bestowal and Management Plans, and Water Classification.

- b) No direct contributions were made.
- c) The mentioned initiatives contribute towards achieving Objective 8 (Maintain ecosystem capacity to provide goods and services and support life forms) of the CBD 2010 goals.
- d) The mentioned initiatives contribute to the implementation of the following objectives of the National Biodiversity Policy [PNB – *Política Nacional de Biodiversidade*]:

Specific Objective 2.18 of Component 4 of the PNB (support to studies on impacts on biodiversity at the various watersheds, especially at riparian forests, headwaters, water sources and other permanent preservation areas, and in critical areas for the conservation of hydrological resources).

Specific Objective 3.11 of Component 4 of the PNB (promotion of the recuperation, revitalization and conservation of biodiversity at the various watersheds, especially at riparian forests, headwaters, water sources and other permanent preservation areas, and in critical areas for the conservation of hydrological resources).

- e) Considering that the National Hydrological Resources Policy proposes to integrate the management of hydrological resources with other elements of the socio-political-economic reality of each watershed, it is possible to state that its implementation contributes indirectly towards achieving all of the MDG objectives. Up to the present development stage of hydrological resources management in Brazil, it may be considered that it contributes towards achieving the following objectives:

- Objective 1. Eradicate extreme poverty and hunger;
- Objective 3. Promote equality between sexes and the autonomy of women;
- Objective 4. Reduce infant mortality;
- Objective 7. Ensure environmental sustainability.

- f) The main constraints identified to the Conservation of the Inland Water Ecosystem were: 1) greater challenges – need for greater political support; few preventive and pro-active measures; reduced capacity for action due to institutional weakness; loss of traditional knowledge; lack of public education and knowledge at all levels; incomplete use of existing scientific and traditional knowledge; little understanding and documentation on the loss of biodiversity and associated benefits; lack of financial, human and technical resources; lack of economic incentive measures; little benefit-sharing; poverty; population pressures; unsustainable consumption and production standards; lack of capacity building at local communities; lack of knowledge and practice on ecosystem management initiatives; low capacity to execute legislation; 2) medium challenges – limited public participation and involvement of interested parties; low representativeness and integration of biodiversity-related themes at other sectors; limited transfer of technology and expertise; little access to knowledge and information; lack of synergy at the national and international levels; little horizontal cooperation among involved parties; lack of effective partnerships; little engagement of the scientific community; need to improve existing policies and legislation; natural disasters and environmental change; 3) medium/smaller challenges – difficulties to adequate scientific research capacity to achieve all objectives.

Marine and coastal biological diversity

General

153. Do your country's strategies and action plans include the following? Please use an "X" to indicate your response. (decisions II/10 and IV/15)

a) Developing new marine and coastal protected areas	X
b) Improving the management of existing marine and coastal protected areas	X
c) Building capacity within the country for management of marine and coastal resources, including through educational programmes and targeted research initiatives (if yes, please elaborate on types of initiatives in the box below)	X
d) Instituting improved integrated marine and coastal area management (including catchments management) in order to reduce sediment and nutrient loads into the marine environment	X
e) Protection of areas important for reproduction, such as spawning and nursery areas	X
f) Improving sewage and other waste treatment	X
g) Controlling excessive fishing and destructive fishing practices	X
h) Developing a comprehensive oceans policy (if yes, please indicate current stage of development in the box below)	X
i) Incorporation of local and traditional knowledge into management of marine and coastal resources (if yes, please elaborate on types of management arrangements in the box below)	X
j) Others (please specify below)	X
k) Not applicable	

Please elaborate on the above activities and list any other priority actions relating to conservation and sustainable use of marine and coastal biodiversity.

Basic Document for a National Marine Science and Technology Policy. See comments in question 15.

TAMAR Project. See comments in question 34.

Program for the Conservation and Restoration of Brazilian Biomes [PROECOS – Programa Conservação e Recuperação dos Biomas Brasileiros]. See comments in question 37.

Integration of the Management of Santa Catarina Coastal and Marine Conservation Units. See comments in question 38.

Potential Environmental Impacts of the Transportation of Oil and Oil Products at the Amazon Coastal Zone [PIATAM MAR – Potenciais Impactos Ambientais do Transporte de Petróleo e Derivados na Zona Costeira Amazônica]. See comments in question 108.

Watersheds Cleaning Program [PRODES – Programa de Despoluição das Bacias Hidrográficas]. See comments in question 148.

Seaside Integrated Management Project. See comments in question 154.

Educated Project – Cooperative Learning Environment for Environmental Education at Coastal Areas Using the Web as Support. The project aims at the continuous training of primary education teachers, through inserting environmental subjects into the school curriculum and using the Information and Communication Technology [TICs – *Tecnologias de Informação e Comunicação*] tools. The project promotes courses, talks, field days, workshops, learning and environment perception activities. Additional information at <http://www.cehcom.univali.br/educado/>.

See also comments in questions 154, 156 and 157.

Implementation of Integrated Marine and Coastal Area Management

154. Has your country established and/or strengthened institutional, administrative and legislative arrangements for the development of integrated management of marine and coastal ecosystems?

a) No	
b) Early stages of development	x
c) Advanced stages of development	
d) Arrangements in place (please provide details below)	
e) Not applicable	

Further comments on the current status of implementation of integrated marine and coastal area management.

The implementation of the national strategy, policy and plans concerning the integrated management of the coastal and marine zones and the protection of these environments, is supervised by the MMA and conducted through the Project for the Integrated Management of the Coastal and Marine Environments, within the Territorial Environmental Management Program [PGT – *Programa de Gerenciamento Ambiental Territorial*] of the Secretariat of Environmental Quality at Human Settlements [SQA – *Secretaria de Qualidade Ambiental*]. Concerning specific Programs and Projects for the integrated management of the coastal and marine zone, as well as their objectives and goals, Brazil possesses the National Coastal Management Program [GERCO – *Programa Nacional de Gerenciamento Costeiro*], the Seaside Integrated Management Project (ORLA Project), and the Program for the Evaluation of the Sustainable Potential of Living Resources in the Exclusive Economic Zone (REVIZEE).

National Coastal Management Program [GERCO – *Programa Nacional de Gerenciamento Costeiro*]. GERCO is being implemented through the National Coastal Management Plan [*Plano Nacional de Gerenciamento Costeiro*], which was instituted by Law nº 7661 of 16 May 1988, and had its details and operation described by Resolution nº 005/97 of the Inter-Ministry Commission for Marine Resources [CIRM – *Comissão Interministerial para os Recursos do Mar*] on 03 December 1997. Decree nº 5300, which regulates Law 7661, was published on 07 December 2004 to improve its level of applicability and to respond to the technical demands to effectively implement management actions at the Coastal Zone. Fulfilling its responsibilities, the MMA coordinates action at the coastal states and municipalities. In this manner, it was possible to establish effective actions of territorial planning and regularization, with the development

of the ecological-economic zoning of over 40% of the Coastal Zone, elaboration of management plans for 15 of the 17 coastal states, operativeness of an information system with nuclei at the states and at the National Coordination. At the federal level, in addition to performing the function of coordinating state and municipal actions, which means providing permanent technical assistance, institutional strengthening and supervising project development, there is an effort to re-coordinate the federal public policies affecting the coastal zone, in order to harmonize these policies with sustainable development directives and with actions conducted by states and municipalities. This effort resulted in the elaboration of a Federal Action Plan, which coordinates the sectors within this governmental sphere and delineates integrated actions for the short, medium and long term. This Plan was developed within the Group for the Integration of Coastal Management [GI-GERCO – *Grupo de Integração do Gerenciamento Costeiro*], a forum to integrate federal actions affecting the coastal zone, which operates within CIRM, under MMA coordination. This forum counts with the participation of federal sectors and representatives of the states, municipalities and non-governmental organizations from coastal regions represented in CONAMA. The inter-sectoral work is also reinforced by the Permanent Coastal Management Technical Chamber within CONAMA, especially regarding those actions involving revision and perfecting of the legal and regulatory aspects applicable to GERCO.

Within the PNGC, the following actions were conducted in the Brazilian coastal states:

AMAPÁ	Entire Coastline (69,842 Km ²) – preliminary diagnosis Sustainable Development Plan Coastal Management State Law
PARÁ	Atlantic Coast of Salgado in Pará (15,200 Km ²) – diagnosis
MARANHÃO	Gulf of Maranhão [<i>Golfão Maranhense</i>] (7,570 Km ²) - zoning Parcel de Manoel Luís Management Plan São Marcos Bay Contingency Plan Geo-processing Sector
PIAUI	Entire Coastline (4,633 Km ²) – preliminary diagnosis
CEARÁ	East Coast (4,684 Km ²) - zoning West Coast (3,848 Km ²) - zoning East Sector Management Plan West Sector Management Plan
RIO GRANDE DO NORTE	Oriental Coast (4,932 Km ²) - zoning State Coastal Management Plan Management Project (DUNAS) Integrated Monitoring Project Coastal Management State Law Geo-processing Sector
PARAÍBA	North Coast (1,100 Km ²) – diagnosis South Coast (1,539 Km ²) – zoning Cabedelo Municipal Management Plan Management Plan of the Metropolitan Region of João Pessoa Parameters for Coastal Environmental Licensing

	Draft Bill on the PEGC
PERNAMBUCO	South Coast (2,097 Km ²) – preliminary zoning – zoning of the Guadalupe Environmental Protection Area South Coast Management Plan Inter-Municipal Action for Managing Urban Solid Waste [Clean Wave Movement - <i>Movimento Onda Limpa</i>] Corais Environmental Protection Area
ALAGOAS	North Coast (578 Km ²) - zoning North Coast Management Plan Management Plan of the Lagoon-Estuarine Complex Mundaú-Manguaba Corais Environmental Protection Area
SERGIPE	South Coast (2,496 Km ²) - zoning State Coastal Management Plan
BAHIA	North Coast (7,890 Km ²) - zoning Salvador/Todos os Santos Bay (4,835 Km ²) - zoning South Coast (28,884 Km ²) - zoning Bill of the State Coastal Management Plan Geo-processing Sector
ESPÍRITO SANTO	North Coast (4,248 Km ²) – diagnosis and zoning Central Coast/Greater Vitória (1,450 Km ²) – diagnosis and zoning South Coast (894 Km ²) – diagnosis and zoning North Coast Management Plan Geo-processing Sector
RIO DE JANEIRO	Lakes Region [<i>Região dos Lagos</i>] (2,695 Km ²) - diagnosis Macro Management Plan (Sepetiba and Ilha Grande) State Coastal Management Plan Geo-processing Sector
SÃO PAULO	North Coast (2,474 Km ²) - zoning Ribeira Valley [<i>Vale do Ribeira</i>] (13,243 Km ²) – zoning Estuarine and Lagoon Complex Iguape, Cananéia and Ilha Comprida (3,287 Km ²) - diagnosis State Coastal Management Plan Management Plan of the Cananéia and Peruíbe Environmental Protection Area Contribution to Municipal Directive Plans State Law Rules for the Installation of Marinas Geo-processing Sector
PARANÁ	Entire Coastline (5,594 Km ²) – zoning State Coastal Management Plan Management Plan of the Guaraqueçaba Environmental Protection Area Ilha do Mel Management Plan

	Law on Soil and Coast Use Planning and Regularization
SANTA CATARINA	North Coast (4,051 Km ²) – diagnosis was concluded Central Coast (1,832.3 Km ²) – zoning South Coast (3,497 Km ²) – zoning State Coastal Management Plan Bill Geo-processing Sector
RIO GRANDE DO SUL	North Coast (3,700 Km ²) - zoning Solid Waste Management Plan Regularization of Hydrological Resources Geo-processing Sector

<http://www.mma.gov.br/port/sqa/projeto/gerco/capa/corpo.html> and <http://www.secirm.mar.mil.br/pngc/pngct.htm>

Tamar Project [**National Program of Conservation and Research on Marine Turtles - Programa Nacional de Conservação e Pesquisa das Tartarugas Marinhas**]. See comments in question 34.

Marine Turtles - The Tamar Center. See comments in question 34.

Humpback Whale Project [*Projeto Baleia Jubarte*]. See comments in question 34.

Seaside Integrated Management Project [Orla Project]. A joint action of the Secretariat of Environmental Quality [SQA/MMA – *Secretaria de Qualidade Ambiental*] and the Secretariat of National Heritage [SPU/MP – *Secretaria do Patrimônio da União*] created the Orla Project with the purpose of providing technical assistance to municipalities and to train local managers in the use of a methodology for planning interventions at the seaside area, with the generation of instruments and local actions of regulatory, institutional and managing character. Its main objective is to promote the organization of the uses and occupancies at the Brazilian seaside region in coordination with the three administrative spheres, harmonizing the different political, social, economic and environmental interests. The managing concept adopted by the Project is based on Law n^o 7661/88, which institutes the PNGC, and on Law n^o 9636/98, which rules on the regulation, administration, transfer of the right of use (including the right to sell and inherit the parcel) conditioned to the payment of a “foro” to the government, and transfer/sale of federal land properties, including those located at seaside. The directives of the Orla Project are:

- Innovate the environmental/public property management, through solving conflicts and decentralizing decisions legitimated by representative councils.
- Encourage shared seaside management by prioritizing inter-institutional cooperation at the different governmental levels.
- Push forward the implementation of instruments for transferring properties to municipalities, under the condition that the municipalities conduct seaside management in such a way to be compatible with the concept of collective heritage, responding to local interests without ignoring the national interest.

The project encompasses the entire coast line, involving a total of 57 municipalities.

Additional information at http://www.mma.gov.br/index.cfm?id_estrutura=11&id_conteudo=483.

REVIZEE Program. See comments in question 156.

São Paulo State Coastal Management Plan. Decree nº 47303 created the legal conditions for the elaboration of the State Coastal Management Plan and the Ecological-Economic Zoning [ZEE – *Zoneamento Ecológico-Econômico*] proposals for the coastal region of the state. One of the objectives of the Coastal Management Plan instituted in 2002 is the elaboration of the ZEE for the São Paulo Coast. The Plan encompasses 36 municipalities, corresponding to approximately 21,000 km² along 700 km of seaside, between the state limits of Rio de Janeiro and Paraná. The São Paulo coast is one of the regions containing the highest demographic and urbanization indexes in the country. The constant increase of port, industry and touristic activities has the potential of worsening the socio-environmental conflicts in the region, emphasizing the strategic importance of management. The Decree made effective the creation of the State Coordination Group and the Sectoral Coordination Groups of the North Coast, Baixada Santista, Iguape-Cananéia Lagoon-Estuarine Complex, and Vale do Ribeira. This measure complied with the rulings of Law nº 10019 of 03 July 1998, by formally creating the instruments for the elaboration of the State Coastal Management Plan and the ZEE proposals for the coastal region of São Paulo state. The State Coordination Group will be composed by 24 members, equally representing the governmental secretariats, coastal municipalities and civil society organizations. This group will have the responsibility of elaborating and updating the State Coastal Management Plan, evaluating and harmonizing the ZEE proposals and the Action and Management Plans elaborated by the Sectoral Coordination Groups. Source: www.funbio.org.br.

155. Has your country implemented ecosystem-based management of marine and coastal resources, for example through integration of coastal management and watershed management, or through integrated multidisciplinary coastal and ocean management?

a) No	X
b) Early stages of development	
c) Advanced stages of development	
d) Arrangements in place (please provide details below)	
e) Not applicable	

Further comments on the current status of application of the ecosystem to management of marine and coastal resources.

See comments in questions 153 and 154.

Marine and Coastal Living Resources

156. Has your country identified components of your marine and coastal ecosystems, which are critical for their functioning, as well as key threats to those ecosystems?

a) No	
b) Plans for a comprehensive assessment of marine and coastal ecosystems are in place (please provide details below)	

- c) A comprehensive assessment is currently in progress
- d) Critical ecosystem components have been identified, and management plans for them are being developed (please provide details below)
- e) Management plans for important components of marine and coastal ecosystems are in place (please provide details below)
- f) Not applicable

x

Further comments on the current status of assessment, monitoring and research relating to marine and coastal ecosystems, as well as key threats to them

Sectoral Plan for Marine Resources [PSRM – Plano Setorial para os Recursos do Mar]. Executed by the Secretariat of the Inter-Ministry Commission for Marine Resources [SECIRM – *Secretaria da Comissão Interministerial para os Recursos do Mar*], this plan has as primary objective the knowledge and evaluation of the potential of living and non-living marine resources of the areas under national jurisdiction and adjacent areas, aiming at the management and sustainable use of these resources. The Plan is currently in its 6th version and was approved by Decree n° 5382/2005. The 6th PSRM will be in effect until 2007, and is composed by the following programs: Evaluation of the Sustainable Potential and Monitoring of the Living Marine Resources; Sustainable Mariculture; Technological and Professional Training on Fisheries Activities; Development and Dissemination of New Fisheries and Catch Technologies; Oceanographic and Climate Monitoring; São Pedro and São Paulo Archipelago. Information available at www.secirm.mar.mil.br.

National Policy for Marine Resources [PNRM – Política Nacional para os Recursos do Mar]. The general directives for the National Policy for Marine Resources (PNRM) were determined by the Presidency of the Republic in 1980, but the PNRM was updated and approved by Decree n° 5377/2005. During the period of over two decades since the promulgation of the PNRM, the national and international scenarios regarding seas, oceans and coastal zones have undergone notable alterations, particularly concerning the global legal framework, mainly due to the United Nations Convention on the Law of the Sea becoming effective in 1994. Therefore, it became necessary to update the PNRM. The PNRM has the purpose of guiding the development of activities aiming at the effective use, exploitation and to derive benefit from living, mineral and energy resources of the Territorial Sea, the Exclusive Economic Zone, and the Continental Shelf, according to the national interests, and in a rational and sustainable manner for the socio-economic development of the country, generating employment and income and contributing to social inclusion.

Program for Evaluating the Sustainable Potential of the Living Resources at the Exclusive Economic Zone (REVIZEE). Approved in 1994 by the Inter-Ministry Commission for Marine Resources [CIRM – *Comissão Interministerial para os Recursos do Mar*] the REVIZEE has the objective of conducting the inventory of the sustainable capture potential of the living resources within the Exclusive Economic Zone (ZEE), in order to achieve the following goals: conduct the inventory of the living resources within the ZEE and of the environmental characteristics of their occurrences; determine their biomass; and establish their sustainable capture potential.

Work development was not uniform through all regions, due to local characteristics, human resources and available variable means. "Integration Meetings" were conducted periodically, to present partial REVIZEE results and to define activities, needs and timelines for Program continuity (1996, 1998, 2001 and 2003). In addition, the Regional Research Sub-committees [SCOREs – *Sub-comitês Regionais de Pesquisa*] have

also been conducting regional meetings and workshops to integrate information and establish strategies for work implementation. Funding for the Program originates mostly from MMA, IBAMA and Brazilian Navy – MB/SECIRM. CNPq contributes with grants, and MME participates through PETROBRAS, which provides fuel for oceanographic and exploratory fishing trips.

The main results of the Program are:

- Publication of REVIZEE technical-scientific results:
- Definition of the sustainable capture potential for stocks already exploited by commercial fishing, but until then still insufficiently known;
- Environmental campaigns in the areas of physical, chemical, geological and biological oceanography; and
- Fisheries Prospection.

Additional information at <http://www.mma.gov.br/revizee>.

Global Ocean Observing System (GOOS). Created by the Intergovernmental Oceanographic Commission (IOC), in cooperation with the World Meteorological Organization (WMO) and UNEP, according to what was established by the United Nations Convention on the Law of the Sea (UNCLS) and the Agenda 21. Brazil ratified the UNCLS and joined the Agenda 21, which, in its chapter 17, recognizes the need to develop a Global Observing System to better understand and monitor changes in the oceans and their influences. Considering the extension of marine area of national interest, over which sustainable development must be ensured, Brazil defined its participation by creating the GOOS/Brazil Pilot Program. The motivation of this Program, which should operate until 2007, when it is expected to be definitively established, is the need to implement, systematize and make fully operational, the collection, analysis and transmission of data throughout the entire oceanic area over which Brazil exerts sovereignty and jurisdictional rights, generating products with socio-economic impacts for the country.

Additional information at <http://labmet.io.usp.br/goos-br/>.

Marine Resources Program. This is a program of the Federal Government Pluri-annual Plan, with the objective of collecting and compiling data and information related to the relief and marine resources of the Brazilian continental shelf, in order to respond to naval defense needs and to the commercial exploitation of these resources. The program is executed by SECIRM and by the Mineral Resources Research Company. The development of scientific research at the São Pedro and São Paulo Archipelago (ASPSP) is imbued of enormous scientific, ecological, economic, social and political importance to the country. From the scientific stand point, its strategic geographical position between the north and south hemispheres and between the American and African continents, lends unique conditions to the ASPSP for conducting research leading to a better understanding of the complex ecological and geological processes of the ASPSP and of other insular systems elsewhere in the world. Considering the biological aspects, it is expected that relevant results will be obtained about the processes that generate diversity and endemism of species found in the region, about the process of population dynamics, about biological differences among insular and continental species, and that new species will be identified. Concerning studies on fisheries resources, it is expected that the results will bring about information on population dynamics, and on the characteristics of the species occurring in the region, focusing the establishment and monitoring of stocks of species of commercial value. Geology studies will provide unique knowledge on a region of unusual formation type and rock characteristics, and will characterize the environment

concerning its comparative importance in relation to other insular environments. The results obtained by meteorological studies represent an important asset not only for those located in the region, but also for understanding meteorological and climatic processes in our continent and the dynamics of the global processes. The technological results obtained from improvements and studies on the establishment of a scientific station on the archipelago represent a knowledge innovation for the country concerning the establishment of advanced research posts in regions of difficult access. Archeological findings and records represent the growing knowledge of the Brazilian historical heritage of great relevance for our country's culture.

Sustainable Fisheries Resources Program. This is a program of the Federal Government Pluri-annual Plan, with the objective of promoting the sustainable use of fisheries resources, by harmonizing commercial exploitation interests with conservation needs. The program is executed by the following institutions: IBAMA; FNMA; SECIRM; SBF of MMA.

Marine Mentality Program. This program aims at stimulating, through planned, objective and continuous actions, the development of a marine mentality by the Brazilian population, compatible with the national interests and directed at obtaining greater knowledge about the sea and its resources, its importance to Brazil, the responsibility of its rational and sustainable exploitation, and the awareness of the need to preserve it. The program objectives are:

- To create awareness among the population, especially among the portion of the population located on the coastal regions, on the importance of the sea in the life of the citizens;
- To create awareness among children and youth about the importance and responsibility of their actions for the preservation of the seas;
- To create interest among youth about the things of the sea, and to support a marine awareness essential for our sovereignty;
- To promote the sea as an essential source of resources for humanity; and
- To mobilize the entire Brazilian population for the effective engagement in sea preservation and resource use.

TRAIN-SEA-COAST Brazil Program. This program has the purpose of training, through specific courses, the human resources working in coastal and oceanic areas. The program was created and is coordinated by the Division of Ocean Affairs and Law of the Sea of the United Nations (DOALOS/UN), and possesses a network of units in charge of offering courses addressing problems that may be solved through training human resources. There are currently eleven Train-Sea-Coast units based in ten countries: Brazil, Costa Rica, United States, Philippines, India, Fiji Islands, United Kingdom, Senegal, Thailand, and France. Additional information at <http://www.tsc.furg.br/>.

São Pedro and São Paulo Archipelago Program (PROARQUIPÉLAGO). The São Pedro and São Paulo Archipelago is composed by a group of small rocky islands completely devoid of vegetation, located approximately 1,000 km off the coast of Rio Grande do Norte state, at a privileged region for developing research on several branches of science. They comprise a rare case in the planet, where islands were naturally formed from a tectonic fault, which propitiated a condition of special scientific interest. In addition, the geographic location of the Archipelago is of significant strategic importance, since it is located in the route of migratory fishes that travel through several oceans, and which possess high economic value, such as the Albacora Lage, a tuna species. It is the PROARQUIPÉLAGO responsibility to

conduct a continuous and systematic scientific research program in the region, comprising the following aspects: geology and geophysics; biology; fisheries resources; oceanography; meteorology; and seismology. The Scientific Station of the Archipelago Program was designed and built by the Federal University of Espírito Santo and by the Laboratory for Forestry Products of IBAMA. Its installation counted with the fundamental participation of the Light-house Ship "Almirante Graça Aranha", of the Directorate of Hydrography and Navigation [DHN – *Diretoria de Hidrografia e Navegação*]. A total of 51 projects are being executed within the program. Additional information is available at <http://www.secirm.mar.mil.br/psrm/proarg/proarg.htm> .

Mapping of Environmental Sensitivity to Oil of the Coastal and Marine Zone. Law nº 9966, of 28 April 2000 ("Oil Law") attributed to MMA responsibilities in the identification, location and definition of the limits of the areas which are ecologically sensitive to "pollution caused by oil spills and spills of other harmful or dangerous substances in waters under national jurisdiction". Decree nº 4871, of 06 November 2003, establishes that the Area Plans to combat oil pollution in waters under national jurisdiction should contain "maps of environmental sensitivity, according to the technical specifications and rules for the elaboration of environmental sensitivity charts for oil spills – SAO Charts". Therefore, the SQA/MMA prepared the Technical Specifications and Rules for the Elaboration of SAO Charts of the coastal and marine zone, a work conducted in collaboration with IBAMA, which is the agency responsible for environmental control and for licensing the activities of the oil industry, and with ANP, which is the regulatory agency of the oil sector. In Brazil, where the Marine Sedimentary Basins encompass an area of 1,550,000 km², approximately half of which (770,000 km²) are located at depths up to 400 meters, and the other half (780,000 km²) at bathyal to abyssal waters (between 400 m and 3,000 m), it was considered appropriate to adopt the Marine Basins as cartographic units. Therefore, a Cartographic Plan was prepared in 2002 for the Mapping of Environmental Sensitivity to Oil of the coastal and marine zone, using the Marine Basins as cartographic units and anticipating the mapping at three levels: Strategic, Tactical and Operational. Additional information is available at <http://www.mma.gov.br/port/sqa/projeto/gerco/mapeamento.html>.

Fisheries Resource Use Management System. This is a database organized by IBAMA, and contains information on fisheries resources, legislation and studies. The database can be accessed at <http://sipesca.ibama.gov.br/> .

Project for the Knowledge, Conservation and Rational Use of the Fish Fauna Diversity of Brazil. This project has the main objectives of producing a diagnosis of the current status of knowledge on freshwater and marine fish diversity in Brazil and to complete this knowledge with collections at strategic areas that were little or not explored. Based on the obtained results, it is expected that the project will provide updated information to the community, the productive sector and to the governmental areas, propitiating effective actions to define priorities for biodiversity conservation and sustainable use. This is a joint initiative of researchers from eight Brazilian and North-American research institutions congregated in one Excellence Nucleus. The main product of the project is the elaboration of the Catalogue of Marine and Freshwater Fish Species of Brazil. Information available at <http://www.mnrj.ufRJ.br/pronex/>.

Catalogue of Marine and Freshwater Fish Species of Brazil. This catalogue contains a list of the valid fish species of documented occurrence in Brazil. When concluded, it is expected that the catalogue will represent a source of reference of scientific names considered valid. The system may be used for consultations for identifying standard nomenclature to be used in databases, fauna and ecology work, and lists of Brazilian fishes. The catalogue currently contains 1,297 species, 4 of which are lampreys and

hagfishes, 139 are sharks and rays, and 1,155 are bony fishes. The catalogue is available for consultation at <http://www.mnrj.ufrj.br/catalogo.htm> .

Atlas of Coastal Erosion and Progradation of the Brazilian Coastline. The objective of this study is to conduct a diagnosis in the coastal states concerning the erosion and progradation (the opposite of erosion) trends of the coastline, to identify critical areas to be monitored in the long term, and to identify the reasons for these phenomena. In addition, the atlas will support the elaboration of directive plans for occupancy of the seaside. The intent is to avoid the urbanization of critical areas and to establish the width of a strip on which building will not be allowed. The atlas also contains information on the effects of human intervention through engineering works at vulnerable coastal segments. The objective is to map all areas which are suffering erosion and those that are under risk of being eroded. The atlas was elaborated by MMA (www.mma.gov.br) and was funded by SECIRM (www.secirm.mar.mil.br).

Species Databases. Brazil possesses the following species databases of the Brazilian coastal and marine zone (all are available at www.bdt.fat.org.br):

- Marine Cheliceriformes - <http://www.bdt.fat.org.br/zoologia/cheliceriformes/>;
- Holothuroidea (Echinodermata) - <http://www.bdt.fat.org.br/zoologia/holothuroidea/>;
- Marine invertebrates - <http://www.bdt.fat.org.br/zoologia/invertebradosmar/>;
- Cnidaria - <http://www.bdt.fat.org.br/zoologia/cnidarios/>;
- Marine Nemertinea - <http://www.bdt.fat.org.br/zoologia/nemertinea/>;
- List of Endangered Animals - <http://www.bdt.fat.org.br/redlist/>;
- Benthic Marine Algae and Angiosperms - <http://www.bdt.fat.org.br/workshop/costa/algas> .

Coastal Zone Program. The Research Institute of the Rio de Janeiro Botanical Garden [JBRJ – *Jardim Botânico do Rio de Janeiro*] has been developing research for over 20 years on the terrestrial and marine flora of coastal ecosystems, such as *restingas*, mangroves, rocky coasts and coral reefs. During these years, its researchers were qualified in different fields of knowledge, through Masters and PhD courses in Brazil and abroad. During this period, information was generated on flora (emphasizing the coast of Rio de Janeiro), which was made available mainly through scientific publications, masters dissertations, PhD theses and technical reports. Beginning in 1996, the research groups studying coastal ecosystems were combined to constitute the Coastal Zone Program. In 2002, with the conduction of a public selection of staff for the JBRJ, the Coastal Zone Program increased its research staff and research lines. The Program has the general objective of “promoting the knowledge of the continental and marine ecosystems of the Brazilian Coastal Zone, supporting conservation and management actions”. The main activities of the Program are directed at the knowledge of diversity, structure and dynamics of the plant communities of terrestrial coastal ecosystems and marine ecosystems. Currently, two Projects comprise the Coastal Zone Program: Marine Ecosystems and Restinga. Additional information at http://www.jbrj.gov.br/pesquisa/z_costei/ .

157. Is your country undertaking the following activities to implement the Convention's work plan on coral reefs? Please use an “X” to indicate your response.

Activities	Not implemented nor a priority	Not implemented but a priority	Currently implemented	Not applicable
	a) Ecological assessment and monitoring of reefs			X
b) Socio-economic assessment and monitoring of communities and stakeholders		X		
c) Management, particularly through application of integrated coastal management and marine and coastal protected areas in coral reef environments			X	
d) Identification and implementation of additional and alternative measures for securing livelihoods of people who directly depend on coral reef services		X		
e) Stakeholder partnerships, community participation programmes and public education campaigns			X	
f) Provision of training and career opportunities for marine taxonomists and ecologists	X			
g) Development of early warning systems of coral bleaching		X		
h) Development of a rapid response capability to document coral bleaching and mortality		X		
i) Restoration and rehabilitation of degraded coral reef habitats			X	
j) Others (please specify below)				

Please elaborate on ongoing activities.

Atlas of the Coral Reefs in the Brazilian Conservation Units. In Brazil, the coral reefs are distributed through approximately 3,000 km of coastline, from Maranhão to the south of Bahia, representing the only reef formations of the South Atlantic. There are 9 Conservation Units in this area, which protect a significant portion of these habitats. Considering the importance of each of these units, and concerned with the present environmental degradation process suffered by the Brazilian reefs, the Directorate of Protected Areas [DAP – *Diretoria de Áreas Protegidas*] began to work specifically with this ecosystem since 1999. Several initiatives were taken with the purpose of establishing a Coral Reef Protection Network. The first

initiative was to develop a project, in partnership with the National Institute of Space Research [INPE – *Instituto Nacional de Pesquisas Espaciais*] and the Coastal Reefs Project, to map the existing reefs within the various Brazilian Conservation Units. The project “Studies on the Brazilian Coral Reefs: Training and Use of Mapping Techniques by Remote Sensing” was then elaborated, which received external funds from the Wetlands for the Future initiative of the Ramsar Convention. This project trained 14 managers and technicians in the use of the remote sensing tool for the mapping and management of coral areas, and generated as its main product the “Atlas of the Coral Reefs in the Brazilian Conservation Units”, a publication that made available, for the first time, maps of the Brazilian reef environment. The continuity of this project will be the indication of the representativeness of these environments under some form of protection, and the identification of new areas to create other Conservation Units. The Atlas was elaborated with the collaboration of 11 authors, and contains a total of 39 maps of the 9 conservation units involved in the project. This product was the result of a participatory work of the involved institutions, and took over three years to be completed. The second edition of the Atlas is currently being prepared, revised and enlarged, including 20 maps of areas in between the Conservation Units, one chapter on the representativeness of the Conservation Units, and one chapter on the Living Coral Project. Information at <http://www.mma.gov.br/port/sbf/dap/atlas2a.html> .

Conscious Conduct at Reef Environments. See comments in question 98.

Coral Reefs Monitoring Pilot Project. The first phase was developed with support from PROBIO / DCBIO/SBF/MMA, by the following institutions: Development Support Foundation of the Federal University of Pernambuco [FADE – *Fundação de Apoio ao Desenvolvimento*], Federal University of Pernambuco [UFPE – *Universidade Federal de Pernambuco*], and Specialized Center of Fisheries, Lagoon and Estuarine Resources Research and Management [CEPENE/IBAMA – *Centro Especializado em Pesquisa e Gestão de Recursos Pesqueiros, Lagunares e Estuarinos*]. The project has the purpose of establishing the bases for the implementation of a national monitoring program for the coral reefs in Brazil, through the establishment of the Reef Check methodology, connected to the global coral reef monitoring network (GCRMN), due to its ease of application and the possibility of involving local communities. The second phase is currently being developed with support from SBF. Additional information at <http://www.recifescosteiros.org.br/reef.htm> .

“Global Climate Change and Coral Bleaching in Brazil” Project. This project is conducted within the Climate Change Program of the MCT, and is a project of the Federal Government Pluri-annual Plan. It results from an operating agreement signed among the MCT, the Federal University of Bahia [UFBA – *Universidade Federal da Bahia*] and the Research and Extension Support Foundation [FAPEX – *Fundação de Apoio à Pesquisa e Extensão*]. The project has the purpose of elaborating a technical-scientific study to assess the effects of the increase in sea water temperature, related to global climate change, on the photosymbiotic organisms in corals, whose reduction leads to coral bleaching and reduces coral capacity to tolerate or adapt to sudden environmental changes.

A technical report containing the first results of the monitoring of coral bleaching occurrences in the state of Bahia was presented in December 2003. According to this report, coral bleaching is a recurrent process in the reefs of Bahia, associated to El Niño effects, which was recorded since the summer of 1993/1994. In 2003, coral bleaching was moderate and short-lasting. Return visits to the research stations are planned, to monitor the bleaching process and the recovery of affected corals. Information at http://www.mct.gov.br/clima/brasil/pdf/Branqueamento_corais.pdf .

Exploitation of ornamental fishes. In Brazil, the exploitation of marine ornamental fishes at the commercial level is allowed, but requires a specific license. The present quota is restricted to 5,000 individuals per company per year for fishes and 500 individuals for seahorses. The IBAMA Administrative Ruling n° 73, of 24 November 2004, regulates the capture of ornamental fish species, establishing the minimum size for capture of marine and estuarine species of the southeast/south region of the country.

Coastal Reefs Project. This project initiated in 1998, and works for the preservation of coral reefs, beaches and mangroves within the Costa dos Corais Environmental Protection Area. The research and experiments conducted by the project in these environments will provide essential information for the Management Plan of the Environmental Protection Area, a document that proposes a zoning model for the protected area and establishes adequate measures for the sustainable use of natural resources. The main activities of the project are:

- Establishment of the Municipal Environmental Protection Councils [CONDEMAS – *Conselhos Municipais de Defesa do Meio Ambiente*].
- Research on the environmental status of the Costa dos Corais Environmental Protection Area.
- Management experiments: creation of coral reef restoration areas; planning and regularization of fishing activities; prohibition of predatory activities within the Environmental Protection Area (IBAMA Administrative Ruling n° 33, of 13 March 2002); planning and regularization of tourism activities; environmental education and community capacity-building.

The Coastal Reefs Project has activities planned until 2005, funded by Inter-American Bank (IDB), and was the result of a joint effort of the Department of Oceanography of the Federal University of Pernambuco, the Northeast Fisheries Research and Extension Center [CEPENE/IBAMA – *Centro de Pesquisas e Extensão Pesqueira do Nordeste*], and the Marine Mammals Center [CMA/IBAMA – *Centro de Mamíferos Marinhos*]. Additional information is available at www.recifescosteiros.org.br.

Project on Fish Biodiversity in Reef Environments in Brazil. Executed by PRONEX, this project has the main objective of presenting the taxonomic status and establishing the area of occurrence of most fishes that occur at the reefs of the Brazilian coast. In addition, the project intends to disseminate the acquired knowledge through a "Guide for Identifying Reef Fishes of Brazil". In addition to funds from PRONEX, the sub-project on reef fishes receives resources from the São Paulo State Research Support Foundation [FAPESP – *Fundação de Amparo à Pesquisa do Estado de São Paulo*] through the project "Comparative Study of Reef Fish Communities of the Brazilian Province". Additional information is available at http://www.mnrj.ufrj.br/pronex/recifais/recifais_home.html.

Living Coral Project. Funded by FNMA and CNPq, this project is executed by the Coastal Reefs Institute, in partnership with the National Museum/UFRJ, the Department of Oceanography/UFPE, the Turtle Friend Project [PAT – *Projeto Amiga Tartaruga*], and the Pró-TAMAR Foundation, in addition to receiving collaborations from businesses and individual donors. The project has the objective of restoring degraded reef environments, by repopulating reefs with coral recruits. The project is based in the Eco-Park Arraial D'Ajuda, in Bahia, and intends to optimize the larvae production of Brazilian coral species in aquariums and tanks, for posterior seeding of reefs with coral juveniles, in addition to developing environmental education activities.

Marine and Coastal Protected Areas

158. Which of the following statements can best describe the current status of marine and coastal protected areas in your country? Please use an "X" to indicate your response.

a) Marine and coastal protected areas have been declared and gazetted (please indicate below how many)	X
b) Management plans for these marine and coastal protected areas have been developed with involvement of all stakeholders	X
c) Effective management with enforcement and monitoring has been put in place	
d) A national system or network of marine and coastal protected areas is under development	
e) A national system or network of marine and coastal protected areas has been put in place	X
f) The national system of marine and coastal protected areas includes areas managed for purpose of sustainable use, which may allow extractive activities	X
g) The national system of marine and coastal protected areas includes areas which exclude extractive uses	X
h) The national system of marine and coastal protected areas is surrounded by sustainable management practices over the wider marine and coastal environment.	
i) Other (please describe below)	
j) Not applicable	

Further comments on the current status of marine and coastal protected areas.

Creation and Implementation of the Ponta do Tubarão State Sustainable Development Reserve [RDS – Reserva de Desenvolvimento Sustentável]. This initiative is conducted by the Economic Development and Environment Institute of Rio Grande do Norte [IDEMA – Instituto de Desenvolvimento Econômico e Meio Ambiente]. The Ponta do Tubarão State RDS was created by Law nº 8349 of July 2003, encompassing two coastal municipalities of the state: Macau and Guamaré. This Conservation Unit is does not yet possess an Environmental Zoning to establish its potential use and restrictions, which will guide the activities to be developed. The Management Council was already formed and is operational. The Management Plan is currently being elaborated. The following activities are being developed:

- The conservation of local natural resources;
- Environmental education actions at schools and communities;
- Research on the fisheries potential;
- Organization of work groups for productive arrangements in fisheries and tourism;
- Work group to define soil use (the work groups are composed by members of the Management Council and of the communities located within the Reserve).

Elaboration of Management Plans of Federal Marine and Coastal Conservation Units. From 2002 to 2004, the management plans of the following conservation units were elaborated or revised:

- Comboios Biological Reserve (2002);
- Carijós Ecological Station (2002);
- Lençóis Maranhenses National Park (2003);
- Lagoa do Peixe National Park (2004);
- Arvoredo Marine Biological Reserve (2004);
- Guapimirim Environmental Protection Area (2004);

Management Plans under elaboration:

- Cairuçu Environmental Protection Area;
- Fernando de Noronha Environmental Protection Area;
- Restinga de Jurubatiba National Park;
- Tijuca National Park;
- Tamoios Ecological Station;
- Atol das Rocas Biological Reserve;

See comments in questions 38 (RUMAR), 154 and 156.

Mariculture

159. Is your country applying the following techniques aimed at minimizing adverse impacts of mariculture on marine and coastal biodiversity? Please check all that apply.

a) Application of environmental impact assessments for mariculture developments	X
b) Development and application of effective site selection methods in the framework of integrated marine and coastal area management	
c) Development of effective methods for effluent and waste control	
d) Development of appropriate genetic resource management plans at the hatchery level	
e) Development of controlled hatchery and genetically sound reproduction methods in order to avoid seed collection from nature.	X
f) If seed collection from nature cannot be avoided, development of environmentally sound practices for spat collecting operations, including use of selective fishing gear to avoid by-catch	
g) Use of native species and subspecies in mariculture	X
h) Implementation of effective measures to prevent the inadvertent release of mariculture species and fertile polypoids.	

- | | |
|---|--|
| i) Use of proper methods of breeding and proper places of releasing in order to protect genetic diversity | |
| j) Minimizing the use of antibiotics through better husbandry techniques | |
| k) Use of selective methods in commercial fishing to avoid or minimize by-catch | |
| l) Considering traditional knowledge, where applicable, as a source to develop sustainable mariculture techniques | |
| m) Not applicable | |

Further comments on techniques that aim at minimizing adverse impacts of mariculture on marine and coastal biodiversity.

Impacts of Mariculture. Study executed by FURG and supported by MCT, with the purpose of assessing impacts caused by mariculture on biodiversity and water quality, with the objective of supporting public policies regulating the activity, and to allow the selection of areas along the Brazilian coast which are more appropriate for this activity. Cultivation methods will also be developed to be implemented at open sea. Additional information at <http://www.mct.gov.br/especial/terraemar03.htm> .

IBAMA Administrative Ruling for Mariculture. Administrative Ruling nº 69, of 30 October 2003, regulates the mariculture activity on the south coast of Brazil by allowing, exclusively to those ventures at-tested as operational, the cultivation of mollusks on the Southeast and South coast, under the condition of signing a Conduct Adjustment Term up until the obtention of an Environmental License for Operating. Information available at <http://www2.ibama.gov.br/cqi-bin/wxis/> .

Marine Repopulation Project of the Ilha Grande Bay. The project develops mariculture with the cultivation and spawning of Coquille Saint-Jacques (native mollusk of the Brazilian coast), and maintains the only laboratory in Brazil which produces coquille seeds, in addition to seeds of other mollusk species. The laboratory for seed production was built with funds from Petrobrás, who supports the program since 2000. There are two farms in Angra dos Reis and Parati, where the mollusks are fattened, and where they are protected from predatory fishing and attract crustaceans and fish, among others. The reproduction of seeds is directed at local repopulation and to provision the mariculturers of the region. In addition to propitiate the reappearance of coquilles in the region, the project also noted the renewed reproduction of other species. A large quantity of coquille seeds are regularly produced (5 million units in 2004, 10 million units predicted for 2005).

Alien Species and Genotypes

160. Has your country put in place mechanisms to control pathways of introduction of alien species in the marine and coastal environment? Please check all that apply and elaborate on types of measures in the space below.

- | | |
|---|---|
| a) No | |
| b) Mechanisms to control potential invasions from ballast water have been put in place (please provide details below) | X |

c) Mechanisms to control potential invasions from hull fouling have been put in place (please provide details below)	
d) Mechanisms to control potential invasions from aquaculture have been put in place (please provide details below)	X
e) Mechanisms to control potential invasions from accidental releases, such as aquarium releases, have been put in place (please provide details below)	
f) Not applicable	

Further comments on the current status of activities relating to prevention of introductions of alien species in the marine and coastal environment, as well as any eradication activities.

In January 2005, the Brazilian government signed the **International Convention for the Control and Management of Ship's Ballast Water and Sediments**. Brazil was the second country to sign this agreement, which needs to be ratified by 30 countries, representing 35% of world merchant shipping tonnage, to enter into force.

Brazil hosts one of the six demonstration places of the **Global Ballast Water Management Program** (GloBallast), located in Sepetiba – RJ.

Maritime Authority Rule [Normam – Norma de Autoridade Marítima]. See comments in question 47.

Combating the Chinese freshwater mussel (golden mussel). See comments in question 47.

Box XXIV.

Please elaborate below on the implementation of this programme of work and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) The National Coastal Management Plan propitiates horizontal coordination (among actions conducted by the federal government) and vertical coordination (among the federal, state and municipal governments). The Zoning of the Brazilian coastal areas conducted within the National Coastal Management Plan is important for the planning and regularization of the use of Brazilian seaside, since the disorganized occupancy of the seaside is one of the main causes of loss and degradation of environmental resources of the coastal and marine zone. State zonings and management plans. REVIZEE. TAMAR Project, Humpback and Right Whales, CMA and Aquatic Mammals Action Plan, marine RESEX's, CONAMA Resolutions regulating the use of restingas and mangroves.

Positive impacts of the work conducted by the TAMAR, Humpback Whale and Right Whale

projects.

- b) No direct contributions were made.
- c) The mentioned initiatives contribute towards achieving Objective 8 (Maintain ecosystem capacity to provide goods and services and to support life forms) of the CBD 2010 Goals.
- d) The mentioned initiatives contribute to the implementation of Objective 11 of the first directive of Component 1 of the National Biodiversity Policy (Ecosystem conservation): *To establish a national initiative for the conservation and restoration of biodiversity in inland waters, coastal zone and marine zone.*
- e) Considering that the National Coastal Management Plan proposes to conduct the management of marine and coastal resources in an integrated manner with other elements of the socio-economic-political reality of the coastal area, it is possible to state that its implementation contributes indirectly towards achieving all objectives of the MDGs. Up until the current development stage of the management of coastal and marine resources in Brazil, it can be considered that it contributes towards achieving the following objectives:
 - Objective 1. Eradicate extreme poverty and hunger;
 - Objective 3. Promote equality between sexes and autonomy of women;
 - Objective 7. Ensure environmental sustainability.
- f) The main constraints identified for the Conservation of Marine and Coastal Ecosystems were:
 - 1) great challenges – need for greater political support; low representativeness and integration of themes related to biodiversity into other sectors; few preventive and proactive measures; reduced capacity for action due to institutional weakness; limited technology and experience transfer; loss of traditional knowledge; lack of public education and knowledge at all levels; limited use of existing scientific and traditional knowledge; little understanding and documentation on the loss of biodiversity, and of associated benefits; lack of financial, human and technical resources; lack of economic incentive measures; little benefit-sharing; poverty; population pressure; unsustainable consumption and production standards; lack of capacity building at local communities; lack of knowledge and practice on ecosystem management initiatives; low legislation execution capacity;
 - 2) great/medium challenges – non-adaptation of existing policies and legislation;
 - 3) medium challenges – limited public participation and involvement of interested parties; limited access to knowledge and information; lack of synergy at the national and international levels; low horizontal cooperation among the involved parties; lack of effective partnerships; low engagement of the scientific community; natural disasters and environmental changes;
 - 4) smaller challenges – difficulty in adapting the scientific research capacity to achieve all objectives.

Agricultural biological diversity

161. Has your country developed national strategies, programmes and plans that ensure the development and successful implementation of policies and actions that lead to the conservation and sustainable use of agrobiodiversity components? (decisions III/11 and IV/6)

a) No	
b) No, but strategies, programmes and plans are under development	
c) Yes, some strategies, programmes and plans are in place (please provide details below)	X
d) Yes, comprehensive strategies, programmes and plans are in place (please provide details below)	

Further comments on agrobiodiversity components in national strategies, programmes and plans.

Agrobiodiversity Management Dissemination Center [CIMA – Centro Irradiador de Manejo da Agrobiodiversidade]. The CIMA Project results from a partnership among the Secretariat of Biodiversity and Forests/MMA, the National Institute of Colonization and Agrarian Reform/MDA, and organized social movements supporting the agrarian reform, and its implementation is funded by the National Environment Fund [FNMA – *Fundo Nacional do Meio Ambiente*]. The CIMAs are reference centers for the dissemination and management of agrobiodiversity initially implemented at settlements of the agrarian reform, aiming at consolidating activities within five main thematic lines related to agrobiodiversity and family agriculture: native (*crioula*) seeds; medicinal plants and phytotherapeutic products; agroforestry systems; agro-extractive management; alternative animal management. The project conception predicts a multiplying effect, in such a way that the experiences and results obtained at the settlements selected for the implementation of these centers will be reproduced in neighboring settlements, increasing the number of agriculture workers benefited by the project. In this sense, the location of each CIMA is a key element for the success of the proposal, which should consider three fundamental aspects: i) accumulated experience in the agroecology field; ii) multiplying capacity; and iii) distribution among the main Brazilian biomes and regions. During this initial phase, 11 projects are being implemented, distributed through nine states. Ten other projects are currently being negotiated, and should be implemented still in 2005. There is the intention to expand the initiative in the future to include other segments of society, which practice family agriculture: indigenous peoples, remaining quilombos, in addition to other traditional communities.

Zero Hunger Program. The National Provisioning Company [CONAB – *Companhia Nacional de Abastecimento*], agency connected to the Ministry of Agriculture, Livestock and Supply [MAPA – *Ministério de Agricultura, Pecuária e Abastecimento*], works in partnership with the Zero Hunger Project, of the Ministry of Social Development and Hunger Combat [MDS – *Ministério do Desenvolvimento Social e Combate à Fome*], and is responsible for the logistics of receiving, storing and distributing the donations for the program. The Company also promotes, through electronic auctions, the acquisition of food to provision indigenous peoples, quilombolas and settled families that are facing food shortage. The Company also participates in the Family Agriculture Support Program, conducting direct and anticipated acquisition, and acquisition contracts. The objective is to ensure income to agriculture workers through three basic instruments: the Acquisition Contract [CGC – *Contrato de Garantia de Compra*], the Anticipated Acquisition of Family Agriculture Products [CAAF – *Compra Antecipada da Agricultura*

Familiar], and Direct Acquisition of Family Agriculture Products [CDAF – *Compra Direta da Agricultura Familiar*], anticipating financial resources for planting and ensuring acquisition of the products for a Reference Price. The list of products from family agriculture includes typical regional products, which are directed to the public acquisition market through a mechanism known as Anticipated Acquisition with Simultaneous Donation, through which the production is acquired from family agriculture workers by CONAB, and sent to public institutions such as schools, day care and hospitals.

National Support Program to Ecology-Based Agriculture at Family Production Units. Created within PRONAF by the Secretariat of Family Agriculture of the Ministry of Agrarian Development, in partnership with other Federal Government agencies, this program has the objective of strengthening the existing initiatives and encouraging the transition from conventional agriculture to sustainable cultivation models. The program adopts a technical support and rural extension mechanism, trains family agriculture workers, and makes available a rural credit line which provides incentives to agroecological production projects, stimulating the adequate management of natural resources and aggregating income and life quality to family agriculture workers.

Agro-Alimentary Provisioning Program. This is a program of the Federal Government Pluri-annual Plan (2004-2007), which has the objective of contributing to the expansion of sustainable production by generating surplus for export and by reducing the variation of the price received by rural producers. The program also builds up and maintains regulating and strategic stocks of agriculture and livestock products to ensure regular internal provisioning, and alimentary and nutritional safety for the Brazilian population.

162. Has your country identified ways and means to address the potential impacts of genetic use restriction technologies on the *In-situ* and *Ex-situ* conservation and sustainable use, including food security, of agricultural biological diversity? (decision V/5)

a) No	X
b) No, but potential measures are under review	
c) Yes, some measures identified (please provide details below)	
d) Yes, comprehensive measures identified (please provide details below)	

Further information on ways and means to address the potential impacts of genetic use restriction technologies on the *In-situ* and *Ex-situ* conservation and sustainable use of agricultural biodiversity.

Annex to decision V/5 - Programme of work on agricultural biodiversity

Programme element 1 – Assessment

163. Has your country undertaken specific assessments of components of agricultural biodiversity such as on plant genetic resources, animal genetic resources, pollinators, pest management and nutrient cycling?

a) No	
b) Yes, assessments are in progress (please specify components below)	X

c) Yes, assessments completed (please specify components and results of assessments below)

Further comments on specific assessments of components of agricultural biodiversity.

Brazilian Pollinators Initiative [IBP – *Iniciativa Brasileira de Polinizadores*]. The UNEP/FAO EP/GLO/301/GEF project “Conservation and Management of Pollinators for a sustainable agriculture through an ecosystem approach” conducted, in Brasília, the First National Consulting Meeting of the Brazilian Pollinators Initiative, in 2004. The meeting was organized by the Ministry of the Environment and EMBRAPA, and had the objective of disseminating information on the opportunities offered by the project, and identifying potential partners and demands from different regions of the country, which might benefit from the support provided by GEF within the four components of the large scale project conducted by FAO in the country: 1) Development of basic knowledge; 2) Extension and promotion of best management practices to benefit pollinators; 3) Training and promotion of voluntary actions; 4) Sharing of experiences and dissemination of results.

Additional information at http://www.mma.gov.br/index.cfm?id_estrutura=29&id_conteudo=1412.

Agroecology Network. This is an Information System developed by the Support and Services to Projects on Alternative Agriculture [AS-PTA – *Assessoria e Serviços a Projetos em Agricultura Alternativa*], with the purpose of supporting the interaction among Agroecology practitioners in Brazil. It contains databases of experiences, studies and research, people and institutions, documents and histories. Available at <http://www.aspta.org.br/publique/cqi/cqilua.exe/sys/start.htm>.

Ecovida Network. This a highly active network of the southern region of the country, composed by family agriculture workers, technicians and consumers, organized in associations, cooperatives and groups which, together with small agro-industries, ecological businesses and people committed to the development of agroecology, have organized themselves around the Ecovida Network with the following objectives: to develop and multiply agroecology initiatives; to stimulate collaborative work in the production and consumption of ecological products; to coordinate and make available information among organizations and people; to approach agriculture workers and consumers in a mutually supportive manner; to encourage the interchange, recovery and valuation of popular knowledge; to have a brand and a label to express the process, commitment and quality. The Ecovida Network counts with 21 regional nuclei, encompassing approximately 170 municipalities. Its work engages approximately 200 groups of agriculture workers, 20 NGOs and 10 consumer cooperatives. There are over 100 ecological farmer’s markets and other forms of commercialization throughout the area of influence of the Ecovida. Information available at <http://ecovida.wopm.com.br/>.

Brazilian Agricultural and Livestock Research Company [EMBRAPA – *Empresa Brasileira de Pesquisa Agropecuária*]. EMBRAPA conducts the following projects:

- Agrolivre. Development of free software for application in the sustainable development of agriculture and livestock production and research (<http://www.agrolivre.gov.br/>).
- Krahô – The Krahô indigenous nation, with over 2,000 people, inhabits an area of 320,000 ha in the Brazilian cerrado, in the northeastern portion of Tocantins state. During the last decades, the Krahô abandoned their traditional agriculture production model, which altered their social

structure, causing the loss of traditional seeds and leading to alimentation insecurity. The Brazilian government, through the Brazilian Agricultural and Livestock Research Company (EMBRAPA), National Indigenous Foundation [FUNAI – *Fundação Nacional do Índio*] and Indigenous Association [*Associação Indígena*], lead a project with the purpose of promoting the conservation, use and recovery of species and varieties traditionally cultivated by the Krahô, emphasizing the *in situ* conservation at cultivated areas (“on farm” conservation) and in biodiverse cultivation systems, as a strategy to promote agro-biodiversity. Several traditional cultivars were reintroduced in the indigenous territory. In addition to strengthening local agro-biodiversity, these reintroductions revived the ritual and mythic repertory of these people, motivating them to recover other habits that were abandoned along with their traditional agriculture.

- EMBRAPA in the Zero Hunger. This project aims at creating a development proposal which, in addition to promoting offer of food items and environmental preservation, may create or increase the number of work and income opportunities, always emphasizing the interest of young agriculture workers. Research projects are conducted in 4 areas: Northeastern Semi-Arid Region, Indigenous Communities, Rural Settlements, and Urban Peripheries. Information available at <http://www.embrapa.br/fomezero/>.
- Brazil Banana Genome. Initiative conducted within the Global *Musa* Genomics Consortium (GMGC). The Musagene has the objective of deciphering the genome of *Musa acuminata* to ensure the sustainability of banana cultivation, as a staple food item for global population. Understanding the genetics of this genus' genome will allow the elaboration of new genetic improvement strategies and genetic modification. Brazil participates in this project through Embrapa Genetic Resources and Biotechnology (Embrapa Cenargen) and Catholic University of Brasília [UCB – *Universidade Católica de Brasília*], and the project receives financial support from Embrapa, UCB and CNPq. Additional information at <http://genoma.embrapa.br/musa/>.
- Environment and Grasshoppers – Pests in Brazil. The project had the main objective of studying the determining factors of the rapid multiplication bouts of the grasshopper *Rhammatocerus schistocercoides*, which since the last decade has gained a growing economic importance in the state of Mato Grosso, particularly due to the damages caused to the sugar cane and rice plantations. The project also focused on the analysis of the influence of the recent agricultural occupancy of the lands and of the modifications of natural landscapes caused by man, on the rapid multiplication bouts of grasshopper populations, which occur in these areas of the Brazilian Amazon. The project gained vast knowledge on grasshopper phenomena connected to the populations of *Rhammatocerus schistocercoides*. Additional information is available at <http://www.gafanotos.cnpm.embrapa.br/>.
- Pimenta Longa Project [“Long Pepper” – *Piper hispidinervum*]. This project has the purpose of developing technologies to transform *Piper hispidinervum* into a commercial culture, capable of responding to the national and international market demands. Information at <http://www22.sede.embrapa.br/pimentalonga/projeto.htm>.

Participatory Natural Resource Management [GESPAN – *Gestão Participativa dos Recursos Naturais*]. The objective of this program is to support, provide incentives and create new institutional and organizational mechanisms to propitiate the sustainable use of natural resources to benefit the population sectors facing poverty. Information at www.gespan.com.br .

164. Is your country undertaking assessments of the interactions between agricultural practices and the conservation and sustainable use of the components of biodiversity referred to in Annex I of the Convention (e.g. ecosystems and habitats; species and communities; genomes and genes of social, scientific or economic importance)?

a) No	X
b) Yes, assessments are under way	
c) Yes, some assessments completed (please provide details below)	
d) Yes, comprehensive assessments completed (please provide details below)	

Further comments on assessment of biodiversity components (e.g. ecosystems and habitats; species and communities; genomes and genes of social, scientific or economic importance).

165. Has your country carried out an assessment of the knowledge, innovations and practices of farmers and indigenous and local communities in sustaining agricultural biodiversity and agro-ecosystem services for food production and food security?

a) No	
b) Yes, assessment is under way	X
c) Yes, assessment completed (please specify where information can be retrieved below)	

Further comments on assessment of the knowledge, innovations and practices of farmers and indigenous and local communities.

Agro-biodiversity Management Dissemination Centers. See comments in question 161.

VI Krahò Fair of Traditional Seeds. The Union of the Krahò - Kapey Villages Association promoted, in September 2004 at its headquarters inside the Itacajá Krahò indigenous territory, in Tocantins, the VI Krahò Fair of Traditional Seeds, which joined all villages of the ethnic group, as well as villages of other Brazilian and foreign indigenous ethnic groups. The objective was to promote the interchange of traditional seeds and cultivation techniques, exhibits, songs, dances, instrumental music, stories and typical food. Up to now, this was a unique event of agro-biodiversity valuation, exchange of ideas, information and culture in general. Members of the Calunga quilombola community also participated. Special care was applied to protect the traditional knowledge of the communities involved in the event, such as establishing the need of obtaining previous authorization to attend the event, to take pictures or to film, and restricting the exchange of genetic materials (seeds, seedlings, etc.), which occurred only among indigenous and traditional communities. Source: www.funbio.org.br.

Improving Life Quality through Agro-biodiversity. Executed by the Support and Services to Projects on Alternative Agriculture [AS-PTA – *Assessoria e Serviços a Projetos em Agricultura Alternativa*], this project benefits 36 municipalities of the central-south portion of Paraná state and in the Paraíba *agreste* [area between the coastal Atlantic Forest and the inland semi-arid region], encompassing the Atlantic

Forest and the Caatinga biomes. The idea of the project, which initiated in 2002, is to promote production systems uniting ecological agriculture with the conservation and recuperation of biodiversity (agro-biodiversity) among family agriculture producers. The objective is to strengthen the processes of family production development based on agro-biodiversity, and to promote the importance of the traditional knowledge of these producers. Additional information is available at <http://www.funbio.org.br/publique/web/cgi/cqilua.exe/sys/start.htm?inford=16&id=32>.

Cerrado is Life [*Cerrado é Vida*]. Developed by six local cooperatives, this project has the purpose of seeking the diversification of products cultivated in agro-forestry systems, including the production of fruit pulp and the processing of cashew nuts. Developed in 30 rural settlements, this project provides direct benefits to 298 families. The project is funded by FUNBIO, and has the objective of strengthening a sustainable regional development strategy through the processing of cashew nuts by the agro-extractive cooperatives. One of the strong components of this project is the participatory work and organic production practiced by the family agriculture producers and their respective municipal cooperatives. Imbedded in the project actions, the conservation of biodiversity aims at strengthening the social aspects connected to production, through the organization of the agro-extractive production and the development of a new production rationale. Additional information is available at <http://www.funbio.org.br/publique/web/cgi/cqilua.exe/sys/start.htm?inford=39&sid=31>.

Mutually supportive processing and commercialization of agro-forestry products in the Amazon. Executed by the Alternative Producers Association [APA – *Associação dos Produtores Alternativos*] from 2000 to 2003 and funded by FUNBIO, this project had the purpose of establishing an agro-industry for the production of palm hearts from cultivated *pupunha* palm, fruit pulp and honey. The producers associated to APA currently manage 360 ha of cultivated *pupunha* palm, which will produce approximately 720,000 kg of this product within the next years, ensuring raw materials for the production of approximately 2 million palm-heart jars. With the adequate use and rotation management of these areas, raw material will be produced for approximately 20 years. However, the establishment of new areas is planned for the short term (increasing the planted area by at least 100%), as well as to increase the number of producers to 350. Among the results achieved by the project, the following are highlighted: the opening and expansion of new markets for palm hearts, at the regional and national level; exporting 1,500 boxes of palm hearts to France; the significant increase of membership; the incentive provided to planting fruit trees in consortium with *pupunha* palms; and the increase in the monthly income of the producers, which varies from R\$500 to R\$1,800 since the beginning of the project. The project also obtained improvement in the environmental conditions of the region, restoring degraded areas and contributing to the preservation of forests. Additional information is available at <http://www.funbio.org.br/publique/web/cgi/cqilua.exe/sys/start.htm?inford=34&sid=31>.

Economic dynamism and sustainable use of agro-biodiversity: a strategic interdependence in the process of developing family agriculture in the Central-South region of Paraná. This project is developed by the Community Development Council [CODEC – *Conselho de Desenvolvimento Comunitário*] of São João do Triunfo with funds from FUNBIO, and has the objective of structuring the conditions for the appropriation of new stages in the production line of beans, corn, and other cultivated species, adding the processing and direct commercialization of the food items ecologically produced by the associated families, adding economic value to the diversity of species and *crioula* (traditional) varieties present in their agro-ecosystems. The project also intends to conduct a training program on administrative-financial management for the members of these organizations, and to advance the technological transition process from conventional agriculture production to ecological systems of the 929

associated families, emphasizing the sustainable management of biodiversity and agro-ecology. In addition, the project predicts the systematization and broad dissemination of the results obtained by this venture, and their presentation to the agencies responsible for elaborating and implementing public policies for agriculture. Additional information is available at <http://www.funbio.org.br/publique/web/cgi/cgilua.exe/sys/start.htm?inoid=41&sid=31>.

Economic sustainability based on the valuation of biodiversity in family agriculture systems.

Developed by the Alternative Technologies Center of the Zona da Mata of Minas Gerais state [CTA-ZM – *Centro de Tecnologias Alternativas da Zona da Mata*] from 2000 to 2003 and funded by FUNBIO, this project had the goal of structuring a sustainable rural development proposal in the areas around the Serra do Brigadeiro State Park and the Caparaó National Park. It involved 8 municipalities and 200 families of smallholder farmers, which have ecologically-grown coffee as their main product. The main objective of the project was to promote and consolidate family agriculture systems around the Brigadeiro Mountain Range [*Serra do Brigadeiro*] (MG). The challenge of the project was to improve life quality of the families, increasing the production of food items and family income, while conserving natural resources. In addition to elaborating a strategic plan for the production of agro-ecological coffee, the project also developed a methodology to evaluate the economic and financial performance of family agro-ecological systems and conducted a comparative study about the performance of these systems and those traditionally employed. The proposed monitoring methodology is based on sustainability attributes for the agro-ecosystems, which are: productivity, equity, stability, resilience, flexibility and autonomy. The activities developed by the project involving the producers and community leaders, added to the technical guidance, encouraged over 50 families to convert to agro-ecological systems, which previously employed conventional production methods, in the municipalities of Espera Feliz, Araponga, Tombos, Eugenópolis and Carangola. Additional information is available at <http://www.funbio.org.br/publique/web/cgi/cgilua.exe/sys/start.htm?inoid=23&sid=33>.

A sustainable development proposal for the Vale do Acre. Developed by the Acre Agro-forestry Systems Research and Extension Group [PESACRE – *Grupo de Pesquisa e Extensão em Sistemas Agroflorestais no Acre*] from 2001 to 2003 with support from FUNBIO, the project had the purpose of implementing sustainable development in the Vale do Acre through the adoption of production systems which promote the restoration of soils and the conservation of natural resources. The new production policy intends to mobilize family labor force and to reward work and capital. By propitiating development on a sustainable basis, it is expected that pressure on forestry resources will be reduced. For that, the agro-forestry systems are used as a model for using open areas, since they fulfill the intended sustainability criteria. Additional information is available at <http://www.funbio.org.br/publique/web/cgi/cgilua.exe/sys/start.htm?inoid=32&sid=33>.

Agro-forestry Extension Project for Family Agriculture Producers of the Municipalities of Palmas, Bituruna, Paula Freitas and Paulo Frontin, in the state of Paraná. The program is executed by the Ecoplan Institute, and has the main objective of obtaining income and life quality improvement for up to 600 small and medium agriculture producers in the southern region of Paraná through the implementation of forestry and agro-forestry systems to be financed by Banco do Brasil, through the Forestry Pronaf program. Parallel to the establishment of commercial cultivation, the producers will be advised to adequate their properties to environmental requirements, by restoring the Permanent Preservation Areas and Legal Reserves. Since this is a very poor region with high forestry potential, people have devastated entire forests along several decades, to ensure the provisioning of their families. This project is making possible the restoration of part of the native vegetation of the region with

the environmental compliance of properties, thus contributing to the recuperation of regional biodiversity. This work also focuses Environmental Education activities directed at students and producers, through activities at schools, talks, distribution of introductory booklets, among others. During these activities, information is provided on the Atlantic Forest biome, environmental conservation, biodiversity and water use. The project also provides extension services to producers, in addition to training events to assist them in tending their cultivated fields without harming the environment. A total of 16 projects were approved by the Forestry Pronaf, with the environmental compliance of the 16 properties granted with support. Information at www.ecoplan.org.br.

National Support Program to Ecology-based Agriculture at Family Production Units. Instituted by the Secretariat of Family Agriculture of the Ministry of Agrarian Development, in partnership with other Federal Government agencies, this program has the purpose of establishing support mechanisms and strategies for actions to propitiate the transition to and strengthening of ecology-based agriculture. The following activities are developed by the program:

- Support to processes of transition to agro-ecology;
- Support to the production, commercialization and consumption of organically produced food items;
- Support to the capacity building of technicians and producers to strengthen ecology-based agriculture at the family production units;
- Incentives to research and teaching, aiming at strengthening ecology-based production processes at the family production units; and
- Subsidized credit to support transition to agro-ecology.

Other events

In addition to these initiatives, other events also promote the exchange of knowledge and agro-biodiversity genetic resources, among which the following are highlighted:

- 5th Brazilian Congress on Agro-forestry Systems (already in its 5th edition);
- 3rd Brazilian Agro-ecology Journey (3rd edition);
- National Fair of the Crioula Seed in Anchieta (3rd edition);
- State Fair of Crioula Seeds and Alternative Technologies (2nd edition);
- Brazilian Symposium on Traditional Knowledge and Agro-biodiversity;
- National Meeting on Agro-biodiversity and Cultural Diversity.

166. Has your country been monitoring an overall degradation, status quo or restoration/rehabilitation of agricultural biodiversity since 1993 when the Convention entered into force?

a) No	X
b) Yes, no change found (status quo)	
c) Yes, overall degradation found (please provide details below)	
d) Yes, overall restoration or rehabilitation observed (please provide details below)	

Further comments on observations.

Programme element 2 - Adaptive management

167. Has your country identified management practices, technologies and policies that promote the positive, and mitigate the negative, impacts of agriculture on biodiversity, and enhance productivity and the capacity to sustain livelihoods?

a) No	
b) No, but potential practices, technologies and policies being identified	
c) Yes, some practices, technologies and policies identified (please provide details below)	X
d) Yes, comprehensive practices, technologies and policies identified (please provide details below)	

Further comments on identified management practices, technologies and policies.

Innumerous practices used by traditional agriculture producers are being identified, and their use is being supported by projects. See comments in question 165.

Programme element 3 - Capacity-building

168. Has your country increased the capacities of farmers, indigenous and local communities, and their organizations and other stakeholders, to manage sustainable agricultural biodiversity and to develop strategies and methodologies for *In-situ* conservation, sustainable use and management of agricultural biological diversity?

a) No	
b) Yes (please specify area/component and target groups with increased capacity)	X

Further comments on increased capacities of farmers, indigenous and local communities, and their organizations and other stakeholders.

Several initiatives are being implemented aiming at training, building capacity and exchanging experiences (technical knowledge vs. traditional knowledge) of local communities, indigenous peoples and family agriculture producers, for the management and conservation of agro-biodiversity. Some examples are:

National Policy of Technical Assistance and Rural Extension – coordinated by the Ministry of Agrarian Development [MDA – *Ministério do Desenvolvimento Agrário*], this policy has the objective of training technicians who provide technical assistance and rural extension to sustainable rural development initiatives, in using an appropriate approach to family agriculture, aiming at its strengthening, the improvement of life quality, and the adoption of agro-ecology principles;

National Policy of Technical, Social and Environmental Assistance – coordinated by the National Institute of Colonization and Agrarian Reform, connected to the MDA, this policy has the objective of promoting sustainable development at the agrarian reform settlements, promoting the economic viability, alimentary safety, and the environmental sustainability of the agrarian reform;

Agro-biodiversity Management Dissemination Centers. See comments in question 161.

Civil society initiatives are also contributing to this purpose, among which the following are highlighted:

Development of an Environmental Program for the Agrarian Reform – coordinated by the Confederation of Agrarian Reform Cooperatives [CONCRAB – *Confederação das Cooperativas de Reforma Agrária*], this initiative has the objective of transforming the conventional production matrix of the agrarian reform settlements (based on low diversity systems – monocultures and pastures – and on the high demand for external inflows – seeds, fertilizers and chemicals, appropriate for the large landholders agriculture style) into an agro-ecological matrix (based on agro-ecology principles, with diversified production systems, with biodiversity, and appropriate to the reality of family agriculture);

Bionatur – organic seeds company, connected to the Landless Workers Movement [MST – *Movimento dos Sem Terra*], which has the objective of producing organic seeds for family producers. Additional information may be obtained in questions 163 and 165.

AS-PTA Network. See comments in question 163.

EMBRAPA. See comments in questions 163 and 173.

Family agriculture producers, indigenous peoples and quilombola communities are supported by training projects on agro-biodiversity. See comments in question 165.

169. Has your country put in place operational mechanisms for participation by a wide range of stakeholder groups to develop genuine partnerships contributing to the implementation of the programme of work on agricultural biodiversity?

a) No	
b) No, but potential mechanisms being identified	X
c) No, but mechanisms are under development	
d) Yes, mechanisms are in place	

Management Council of the Agro-biodiversity Management Dissemination Centers – This is a consulting and deliberative forum of mixed composition (civil society and government), which gathers representatives of the Agro-biodiversity Management Dissemination Centers and of the governmental agencies directly related to project implementation.

PRO-AMBIENTE Management Council – consulting and deliberative forum of mixed composition (civil society and government), which gathers representatives of the PRO-AMBIENTE centers and of the governmental agencies directly related to project implementation.

National Meeting on Agro-biodiversity and Cultural Diversity – biannual event which congregates representatives of the local communities, indigenous peoples, family agriculture and governmental sectors, notably those connected to the environmental, cultural and family agriculture themes. It has the objective of elaborating proposals for the development of encompassing public policies related to agro-biodiversity and to the related non-material heritage.

170. Has your country improved the policy environment, including benefit-sharing arrangements and incentive measures, to support local-level management of agricultural biodiversity?

a) No	
b) No, but some measures and arrangements being identified	X
c) No, but measures and arrangements are under development	
d) Yes, measures and arrangements are being implemented (please specify below)	

Further comments on the measures taken to improve the policy environment.

Resolutions of the Genetic Heritage Management Council:

- **Resolution nº 07 of 26 June 2003.** Establishes directives for the elaboration and analysis of Contracts for the Use of Genetic Heritage and Benefit-Sharing, signed among private parties and which do not involve associated traditional knowledge or wildlife components. Available at <http://www.mma.gov.br/port/cgen/doc/res7.pdf>.
- **Resolution nº 09 of 18 December 2003.** Establishes directives for obtaining the previous agreement of indigenous and local communities in order to access a component of the genetic heritage with scientific research purposes, with no potential or perspective of commercial use. Available at <http://www.mma.gov.br/port/cgen/doc/res9.pdf>.
- **Resolution nº 11 of 25 March 2004.** Establishes directives for the elaboration and analysis of Contracts for the Use of Genetic Heritage and Benefit-Sharing, which involve access to components of the genetic heritage or associated traditional knowledge provided by indigenous or local communities. Available at <http://www.mma.gov.br/port/cgen/doc/res11.pdf>.

171. Is your country mainstreaming or integrating national plans or strategies for the conservation and sustainable use of agricultural biodiversity in sectoral and cross-sectoral plans and programmes?

a) No	
b) No, but review is under way	
c) No, but potential frameworks and mechanisms are being identified	X
d) Yes, some national plans or strategies mainstreamed and integrated into some sectoral plans and programmes (please provide details below)	
e) Yes, some national plans or strategies mainstreamed into major sectoral plans and programmes (please provide details below)	

Further comments on mainstreaming and integrating national plans or strategies for the conservation and sustainable use of agricultural biodiversity in sectoral and cross-sectoral plans and programmes.

The following initiatives are currently underway:

National Policy of Medicinal Plants and Phytotherapeutic Products – the Presidential Decree of 17 February 2005 instituted the Inter-Ministry Work Group, composed by representatives of seven ministries (Health; Environment; Agrarian Development; National Integration; Science and Technology; Agriculture, Livestock and Supply; Industry and Commerce Development), in addition to the Office of the Chief Staff of the Presidency of the Republic, National Agency of Sanitary Vigilance, and the Oswaldo Cruz Foundation. It has the objective of elaborating a proposal for a governmental policy for medicinal plants and phytotherapeutic products, with the participation of several governmental sectors and with broad participation of the civil society, aiming at establishing an appropriate development model for the country's reality, and predicting the sustainable use of biodiversity for the production of home-made and community medicines, as well as for the development of the national industry of phytotherapeutic products.

Agro-biodiversity and cultural diversity – as detailed in question 169, the Meeting has the objective of elaborating, with broad public participation and involving various governmental agencies, encompassing public policies directed at the sustainable use of agro-biodiversity and for the preservation of the associated non-material heritage.

National Program of Ecology-Based Agriculture – this program has the purpose of promoting the transition to an agricultural model based on agro-ecology principles, under the coordination of the Ministry of Agrarian Development [MDA – *Ministério do Desenvolvimento Agrário*]. It proposes to consolidate partnerships among public agencies connected to family agriculture and the environment (MDA, MMA, MAPA, among others), and civil society organizations.

See also comments in question 170.

172. Is your country supporting the institutional framework and policy and planning mechanisms for the mainstreaming of agricultural biodiversity in agricultural strategies and action plans, and its integration into wider strategies and action plans for biodiversity?

a) No	
b) Yes, by supporting institutions in undertaking relevant assessments	X
c) Yes, by developing policy and planning guidelines	

d) Yes, by developing training material	X
e) Yes, by supporting capacity-building at policy, technical and local levels	
f) Yes, by promoting synergy in the implementation of agreed plans of action and between ongoing assessment and intergovernmental processes.	
Further comments on support for institutional framework and policy and planning mechanisms.	
See comments on:	
Brazilian Pollinators Initiative (question 163);	
Agro-biodiversity Management Dissemination Centers (questions 161 and 165);	
National Policy on Medicinal Plants and Phytotherapeutic Products (question 171).	

173. In the case of centers of origin in your country, is your country promoting activities for the conservation, on farm, *In-situ*, and *Ex-situ*, of the variability of genetic resources for food and agriculture, including their wild relatives?

a) No	
b) Yes (please provide details below)	X

Further comments on of the conservation of the variability of genetic resources for food and agriculture in their center of origin.

The *in situ* conservation still presents very incipient initiatives, while the *ex situ* conservation already represents a certain tradition in the country (especially the work conducted by EMBRAPA).

Brazilian Agricultural and Livestock Research Company [EMBRAPA – Empresa Brasileira de Pesquisa Agropecuária]. EMBRAPA seeks to harmonize the society demand for food production, economic development and the generation of employment and income, with the sustainability of the agriculture and livestock production processes. EMBRAPA also attempts to insert components of environmental conservation into its technologies, aiming at the rational use of natural resources and biodiversity, with the objective of attaining better life quality, the production of healthy foods, and the sustainability of agribusiness. EMBRAPA created plant varieties which are more resistant to pests; developed new alternatives for biological control; contributed to the reduction of the use of chemical products in agriculture; contributed to advances in the soil and water management and conservation techniques; promoted the monitoring of forest fires; and identified and protected threatened animal and plant species. The results of these actions assist in the maintenance of biodiversity in natural ecosystems. The rescue of plants and animals in the verge of extinction or threatened by the installation of large infrastructure works, such as hydroelectric power plants, mining projects or road constructions, offers the possibility of the economic use of these species, favoring agribusiness. Concerning agricultural productivity, the cultivated area in Brazil remains practically stable since 1989, while production increased by 61%. This increase in production without the occupancy of additional areas allowed the preservation of forests, cerrados, caatingas, floodplains and other ecosystems.

In addition, EMBRAPA maintains in Brasília (DF) a germoplasm collection with over 80,000 samples of plants, animals and micro-organisms, including endangered races from several parts of the world. Moreover, the Company maintains and coordinates 163 other germoplasm banks established in the various regions of the country, with approximately 200,000 samples. EMBRAPA also works with *in situ*

genetic banks. In this case, remaining native vegetation cover in the various environment types existing in a region is conserved, and may function as insurance policies for biodiversity and may facilitate the obtention of "green labels", which are increasingly necessary for the international trade of agriculture, wood and cellulose products.

Information at www.embrapa.br .

See also the **EMBRAPA projects** (comments in question 163).

Box XXV.

Please provide information concerning the actions taken by your country to implement the Plan of Action for the International Initiative for the Conservation and Sustainable Use of Pollinators.

Brazilian Pollinators Initiative. See comments in question 163.

Box XXVI.

Please elaborate below on the implementation of this programme of work and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) CIMAS, AS-PTA Network. Work conducted by the EMBRAPA native species germoplasm banks. Brazilian Pollinators Initiative. Partnership EMBRAPA/Krahô Natives.
- b) The Biosafety Protocol came into force in Brazil in February 2004, and this fact contributed towards achieving Objective 1.4 of the Convention Strategic Plan (*The Cartagena Protocol on Biosafety is widely implemented*).
- c) No direct contributions were made.
- d) The initiatives contribute to the implementation of objective 4 of the second directive of Component 3 of the National Biodiversity Policy (Develop and support programs, actions and measures which promote the conservation and sustainable use of agro-biodiversity).
- e) The mentioned initiatives contribute towards achieving the following objectives of the MDGs:
 - Objective 1. Eradicate extreme poverty and hunger;
 - Objective 3. Promote equality between sexes and the autonomy of women;
 - Objective 4. Reduce infant mortality;
 - Objective 5. Improve maternal health; and
 - Objective 7. Ensure environmental sustainability.
- f) The main constraints identified for the Conservation of Agriculture Ecosystems were: 1) great challenges: need for greater political support; low representativeness and integration

of themes related to biodiversity into other sectors; few preventive and proactive measures; need to strengthen institutional capacity; loss of traditional knowledge; lack of public education and knowledge at all levels; limited use of existing scientific and traditional knowledge; little understanding and documentation on the loss of biodiversity and associated benefits; lack of economic incentive measures; little benefit-sharing; lack of synergy at the national and international levels; need to improve existing policies and legislation; poverty; population pressure; unsustainable consumption and production standards; lack of capacity-building at local communities; lack of knowledge and practice on ecosystem management initiatives; little capacity to execute legislation; 2) medium challenges: limited technology and experience transfer; limited access to knowledge and information; lack of financial, human and technical resources; little horizontal cooperation among involved parties; lack of effective partnerships; low engagement of the scientific community; natural disasters and environmental change; 3) smaller challenges: limited public participation and involvement of interested parties; difficulties in adapting scientific research capacity in order to achieve all objectives.

Forest Biological Diversity

General

174. Has your country incorporated relevant parts of the work programme into your national biodiversity strategies and action plans and national forest programmes?

a) No	
b) Yes, please describe the process used	X
c) Yes, please describe constraints/obstacles encountered in the process	X
d) Yes, please describe lessons learned	X
e) Yes, please describe targets for priority actions in the programme of work	X

Further comments on the incorporation of relevant parts of the work programme into your NBSAP and forest programmes

Forestry PRONAF. (See comments in question 176).

Elaboration of the **National Forests Program** through the coordination of public policies related to issues such as land tenure regularization, credit and financing, environmental legislation, research and technology, training and capacity-building, among others.

ARPA Project. (See comments in question 37).

Pilot Program for the Protection of Brazilian Tropical Forests (PPG7). Joint initiative of the Brazilian government, Brazilian civil society and international community, with the mission of contributing to the elaboration and establishment of policies, which result in the conservation of natural resources and in the promotion of sustainable development in the Brazilian Amazon and in the Atlantic Forest. Coordinated by the Brazilian government, the Pilot Program conducts its activities through operating agreements among several ministries and state and municipal governments, and also involving Brazilian civil society organizations. The resources financing these activities originate from donations made by the eight most developed countries in the world and by the European Union, in addition to matching resources provided by Brazil. The main characteristic of the Pilot Program is to promote partnerships from the international to the local level, among the different governmental tiers and among these and the civil society, for the construction of solutions which harmonize the economic use and the conservation of Brazilian forests. A portfolio of 26 sub-programs and projects, eight of which were already completed, comprise the Pilot Program. In its first phase, important results were obtained towards the achievement of the proposed objectives in the following themes:

- Sustainable production;
- Decentralization of environmental management in the Amazon;
- Protection of indigenous lands;
- Regularization of extractive reserves;
- Production of scientific and technological knowledge for sustainability;
- Prevention and control of deforestation and fire;
- Strengthening of civil society;

- Protection and restoration of Atlantic Forest; and
- Generation of knowledge and application of strategic lessons.

Information at <http://www.mma.gov.br/ppg7>.

Box XXVII.

Please indicate what recently applied tools (policy, planning, management, assessment and measurement) and measures, if any, your country is using to implement and assess the programme of work. Please indicate what tools and measures would assist the implementation.

National Biodiversity Policy (Decree n° 4339 of 22 August 2002).

National Forests Program. The Ministry of the Environment elaborated goals for the National Forests Program [PNF – *Programa Nacional de Florestas*] for the period of 2004-2007, which include fundamental instruments for the sustainable development of the Brazilian Forestry Sector. The two goals defined for the PNF are:

1. Expansion of the planted forestry base and restoration of degraded areas; and
2. Expansion of the area of managed forests associated to the protection of areas of high ecological value.

The objectives of PNF also include the elimination of the annual deficit between what is currently planted in the country and what should be cultivated, as well as to supply the industrial demand and ensure wood provisioning to the sector, reducing the pressure on native forests. PNF foresees a strong investment in the restoration of degraded areas, especially of those in permanent protection areas (with priority to headwaters), which are fundamental for the maintenance of biodiversity. Parallel to this, there will be the generation of employment and income at small and medium properties with the use of areas which are not appropriate for agriculture.

Sustainable Amazon Program. This is a program of the federal government Pluri-annual Plan, with the objective of promoting the development of the Amazon through the sustainable use of its natural resources.

Forestry Pronaf. This is a rural credit line of the National Program for Strengthening Family Agriculture [PRONAF – *Programa Nacional de Fortalecimento da Agricultura Familiar*], which encourages the adequate management of natural resources, stimulating the planting of forest species, supporting rural family producers in the implementation of sustainable management projects of multiple use, reforestation and agro-forestry systems, providing incentives to the preservation of national forests and restoring degraded areas, with the environmental planning and regularization of rural properties.

Forestry Policy of the State of São Paulo. The São Paulo State Forestry Institute is promoting the elaboration of a draft proposal for a Forestry Policy for the State of São Paulo, a document which should be submitted to public hearings.

Box XXVIII.

Please indicate to what extent and how your country has involved indigenous and local communities, and respected their rights and interests, in implementing the programme of work.

Coordinating Commission of the National Forests Program [CONAFLO – Comissão Coordenadora do Programa Nacional de Florestas]. Instituted by Presidential Decree nº 4864/2003, this Commission has the purpose of proposing and evaluating measures to ensure compliance with the principles and directives of the public policies concerning the Forestry Sector, according to the National Environmental Policy and the Forestry Code. It also has the responsibility of suggesting projects, research and studies on forestry management and planting, as well as actions for the capacity-building of human resources, institutional strengthening and public sensitization.

Information at <http://www.mma.gov.br/port/sbf/pnf/capa/index.html>.

In addition, local communities possess representation in several representative councils of the Ministry of the Environment (Genetic Heritage Management Council, National Biodiversity Commission, National Environment Council, and National Hydrological Resources Council). See comments in question 57.

Positive Agenda for the Brazilian forestry sector. Program executed by the Directorate of Protected Areas (DAP/SBF/MMA), for the period of 1999 to 2005, with the following objectives:

- Establishment of shared management between the Monte Pascoal National Park and the Pataxó indigenous lands;
- Constitution of the inter-ministry Work Group with the participation of indigenous leaders; and
- Establishment of an operating agreement between MMA and IESB for decentralized action implementation.

Box XXI X.

Please indicate what efforts your country has made towards capacity building in human and capital resources for the implementation of the programme of work.

National Forestry Management Support Center [Cenaflo – Centro Nacional de Apoio ao Manejo Floresta]. Despite all the potential of the Brazilian Forestry Sector, there is a significant deficiency of technical assistance. Of the total 20,000 technicians working on rural technical assistance, less than 1% are trained on the sustainable management of forests. To change this picture, the National Forests Program will train professionals on technical assistance and rural extension, and will implement Forestry Management Training Centers. With resources from the Pilot Program for the Protection of Brazilian Tropical Forests (PPG7), international cooperation and Federal Budget [OGU – *Orçamento Geral da União*], R\$ 17.5 millions will be invested in capacity-building and technical assistance in forestry management. Still in 2005, 1,500 technicians will be trained and 10,000 producers will receive direct technical assistance. The Center has the following objectives: to develop and improve forest management techniques, ensuring the sustainable production of goods and services; support the dissemination of sustainable forest management; support research directed at improving forest management techniques; catalyze training and extension actions on forest management in the country; contribute to perfection the training of technicians and forest engineers; promote the multiple use of forests and the aggregation of value to its products and services; and contribute to the elaboration and improvement of public policies related to the management of forest resources.

Information at <http://www.mma.gov.br/port/sbf/pnf/capa/index.html>.

Box XXX.

Please indicate how your country has collaborated and cooperated (e.g., south-south, north-south, south-north, north-north) with other governments, regional or international organizations in implementing the programme of work. Please also indicate what are the constraints and/or needs identified.

Expanded programme of work on forest biological diversity

Programme element 1 – Conservation, sustainable use and benefit-sharing

175. Is your country applying the ecosystem approach to the management of all types of forests?

- | | |
|---|---|
| a) No (please provide reasons below) | |
| b) No, but potential measures being identified (please provide details below) | X |
| c) Yes (please provide details below) | |

Comments on application of the ecosystem approach to management of forests (including effectiveness of actions taken, lessons learned, impact on forest management, constraints, needs, tools, and targets).

The **Project for the Conservation and Sustainable Use of Brazilian Biodiversity** [PROBIO - *Projeto de Conservação e Utilização Sustentável da Diversidade Biológica Brasileira*] issued a public notice in 2004, to select one institution to conduct the “Inventory of the remaining fragments of vegetation cover of the Atlantic Forest biome”. This inventory will be conducted at the 1:250,000 scale and will generate basic information to support the elaboration of public policies for the conservation and sustainable use of the biological diversity in the country. Additional information at <http://www.mma.gov.br/estruturas/chm/arquivos/edit304.pdf>.

See comments in question 174.

Integrated Environmental Management Project of Mato Grosso State [PGAI/MT – *Projeto de Gestão Ambiental Integrada do Estado do Mato Grosso*]. Project executed by the state government of Mato Grosso, with resources from PPG7 and from the state. Project activities are:

- Inspection of deforestation and fire, based on monitoring data;
- Supervisory inspection of the Degraded Area Restoration Plans [PRAD – *Planos de Recuperação de Áreas Degradadas*] generated by SLAPR;
- Environmental education actions aiming at preventing deforestation and fire;
- Deforestation monitoring to update the digital cartographic base with data on the deforestation that occurred in 2003;
- Lend effect to coordination through workshops among public institutions, to obtain digital information on the agrarian settlements in the state;
- Support to the organization of rural land owners for the restoration of Legal Reserves and Permanent Preservation Areas [APP – *Áreas de Preservação Permanente*] in municipalities around

Conservation Units (Alta Floresta, Carlinda and Novo Mundo);

- Monitoring and evaluation of the PGAI/MT activities;
- Provide training to the Office of Prosecutors on the environmental licensing procedures of the state and federal environmental agencies (FEMA and IBAMA).

Program of Socio-environmental Development of the Rural Family Production in the Amazon (PROAMBIENTE). This is a proposal for a public policy which seeks to coordinate production support mechanisms with a new concept of natural resource use, and which is being constructed by organizations representing the rural family producer categories in the Amazon (CONTAG/FETAGs, MONAPE, COIAB, CNS and GTA), in partnership with FASE (Federation of Agencies for Social and Educational Assistance – *Federação de Órgãos para Assistência Social e Educacional*), IPAM and sectors of the Ministry of the Environment and Ministry of Agrarian Development. This is a rural development program, directed at promoting production in balanced systems, with integrated management of natural resources in the entire production unit. With PROAMBIENTE, the rural area of the Amazon obtains a new role in society, going from simple supplier of agro-extractive products (food items, fibers, resins, etc.) to also being a producer of environmental services for society, adding value to the multi-function character of rural family production.

In its first phase, the PROAMBIENTE is working on the establishment of 12 pioneer centers, reaching approximately 6,000 families representing the categories which comprise family production (family agriculture producers who benefited from the agrarian reform, extractive workers, artisanal fishermen, and indigenous peoples) in the nine states of the Legal Amazon. Additional information is available at http://www.fase.org.br/admin/preview.asp?conteudo_id=546.

Paraná-Pirineus Cerrado Ecological Corridor Project. See comments in question 39.

Mil Madeireira Itacoatiara Ltda. The Mil Madeireira Itacoatiara Ltda company is a member of the Precious Woods Swiss group. Since July 1997, it has been certified by the SmartWood program of the Rain Forest Alliance, according to the indicator criteria of the Forest Stewardship Council. In Brazil, Precious Woods is developing the first sustainable forest management operation of the Amazon. The sustainable forest management is based on the concept of conducting inventories of commercial woods, annual administration and a long collection cycle, which has the purpose of protecting the regeneration capacity of the forest. The forest area of 80,000 ha is managed for a 25-year collection cycle. The collection areas are analyzed according to their botanical and topographic data: each tree above a given diameter is located, measured and digitally plotted on operational maps to create a detailed inventory of the forest. The operational maps are used to identify and select the commercial trees for collection. These are numbered, and can be tracked throughout the entire process (collection and production process). Special care is applied to avoid any soil erosion and to preserve natural water courses. Additional information at <http://pwamazon.com.br>.

GEF Project “**Ecosystem Restoration of Riparian Forests in São Paulo**”, currently being negotiated with the World Bank, to be implemented by the São Paulo State Secretariat of the Environment [SMA – *Secretaria Estadual de Meio Ambiente*].

176. Has your country undertaken measures to reduce the threats to, and mitigate its impacts on forest biodiversity?

Options	X	Details
a) Yes	X	Please specify below the major threats identified in relation to each objective of goal 2 and the measures undertaken to address priority actions
		Deforestation and Fire (National Program of Forests and monitoring systems for fire and deforestation).
b) No		Please provide reasons below

Further comments on measures to reduce threats to, and mitigate the impacts of threatening processes on forest biodiversity (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).

Fire in the Amazon. The PREVFOGO and PROARCO programs possess fire alert systems (see comments in question 71). The National Space Research Institute [INPE – *Instituto Nacional de Pesquisa Espacial*] makes LANDSAT images available for constant fire monitoring, which are updated six times per day (<http://www.dpi.inpe.br/proarco/bdqueimadas>).

IBAMA is creating a macro-monitoring system for the areas suffering constant deforestation and illegal fire threat (<http://www.ibama.gov.br/fiscalizacao/home.htm>).

In addition, there are other monitoring programs such as SIPAM (see comments in question 20).

National Forests Program. This program provides incentives to the confiscation of wood illegally removed from forests, and proposes new destinations to the confiscated wood. Through Decree nº 4722 of 2003, the Brazilian government defined that the exploitation of mahogany should be conducted in a sustainable manner, and declared a five-year ban on the felling of this species in areas holding deforestation permits. The Secretariat for Biodiversity and Forests of the Ministry of the Environment estimates that in 2005 it may already be possible to develop a series of management plans for the species in the Amazon. These plans will be monitored by IBAMA and other institutions, and will carry the obligation of planting new seedlings, assisting in the renewal of the mahogany stocks. The management should ensure the protection of 20% of the matrix trees, and that the removed trees have a diameter above 55 centimeters. Research for the conservation of this species will also be encouraged. Mahogany is endemic to the Americas, from Mexico to Brazil. Up until 2001, approximately 80% of the national mahogany was exported to Europe and the United States. It is estimated that since the 1970's, Brazil has exported US\$4 billions worth of mahogany, corresponding to approximately 1.5 million trees, the vast majority of which were obtained in a predatory and unsustainable manner. Additional information at <http://www.mma.gov.br/port/sbf/pnf/capa/index.html>.

Forestry Pronaf. This is a rural credit line of the National Program for Strengthening Family Agriculture [PRONAF – *Programa Nacional de Fortalecimento da Agricultura Familiar*], which provides incentives to the

adequate management of natural resources, encouraging the planting of forest species and supporting family producers in the implementation of sustainable management projects of multiple uses, reforestation and agro-forestry systems, providing incentives to the preservation of national forests and the restoration of degraded areas, with the environmental planning and regularization of rural properties.

177. Is your country undertaking any measures to protect, recover and restore forest biological diversity?

Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of goal 3 and describe measures undertaken to address these priorities
		Actions for the protection and restoration of the Atlantic Forest and Araucaria Pine Forests.
b) No		Please provide reasons below

Further comments on measures to protect, recover and restore forest biological diversity (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).

Forestry PRONAF. (see comments in questions 15 and 176)

Atlantic Forest Program of the Rio de Janeiro Botanical Garden. (see comments in question 19).

Program for the Protection of Endangered Species of the Atlantic Forest and other programs related to endangered species in this biome. (see comments in question 34)

See comments in questions 37, 67 and 68.

Profile of the *Pinhão* [pine nut] Production Socio-ecosystem in Paraná. The project was executed by the Ecoplan Institute from 2001 to 2003, at the cities and municipalities around Curitiba, Guarapuava and União da Vitória, the three most important cities for the *pinhão* production in Paraná. The Mixed Broadleaf Forest once covered approximately 200,000 km² of the Brazilian territory, 40% of which in the state of Paraná. This biome has a notable ecological value, since it contains species which are unique in the planet. Given the exuberance of its resources, the Araucaria Forest represented a great socio-economic importance for the south of Brazil. However, this process was accompanied by the destruction of the largest portion of the ecological and economic heritage that the Mixed Broadleaf Forest possessed, leading to the rapid elimination of this forest cover. Given this context, the project considered all the phases of the production line, the human profile, the involved entities, the analysis of the environmental aspects, and the recovery of the culture of Paraná state. In addition, the project suggested actions for the population involved with the collection and commercialization of *pinhão*, so that the activity may become sustainable in the long term – considering the prospects of improving the economic condition of the population, minimizing environmental impacts and promoting the conservation of the Araucaria pine. Information at www.ecoplan.org.br.

Conservation of the Atlantic Forest of Rio Grande do Sul. The project inspects fauna, flora, pollution,

mining, transport of dangerous products, compliance with environmental licenses, environmental monitoring and vigilance, natural resources, and conducts informal environmental education actions in partnership with similar agencies, at and around Conservation Units. It also promotes the conservation of the Atlantic Forest in Rio Grande do Sul state. Information at www.sema.rs.gov.br.

Restoration of degraded areas in the Carajás National Forest. Developed by the Vale do Rio Doce Company (CVRD), this project has the purpose of rehabilitating degraded areas in the Carajás National Forest. Currently, the technique of directly sowing a mixture of seeds from herbaceous/bush species (both native and alien) has been greatly responsible for the achievement of the environmental goals of the Degraded Area Restoration Plans [PRAD – *Planos de Recuperação de Áreas Degradadas*] at the CVRD property, since it presents a better operational gain and is environmentally appropriate in most cases. Contrary to the traditional planting of seedlings, the direct sowing leads to cost reductions. Between 1994 and 2003, 254.4 ha of the Carajás National Forests were replanted. By using a mixture of rustic species to perform the same function of the regional invasive species, becoming “facilitator” species for environmental conditions because of the generation of green mass and soil conditioning, the method provides an ideal substrate for the spontaneous regeneration of propagula produced in the regional remaining forest fragments of the Carajás National Forest. The organic matter deposited on the soil is promptly made available, transforming the environment which was previously poor in nutrients and organic matter, since for some years it was deprived of its superficial layer due to mining activities, into a condition closer to that of areas in the process of recuperation, such as “*capoeiras*” or “*juquiras*” [areas presenting second growth]. The results are fast, since the organic matter creates a new micro-climate in the replanted areas, allowing local animals to act as seed dispersing agents, and propitiating the increase of biological diversity. The studies conducted by the project include the participation of the following research entities: EMBRAPA, POEMAR, UFPA, MPEG, and UFRJ.

Pernambuco State Government. Through the Secretariat of Science, Technology and Environment, the government executes the following projects, aiming at the conservation and restoration of the Atlantic Forest:

- Project for the Protection and Restoration of the Atlantic Forest;
- Establishment of the Gurjaú Ecological Station;
- Establishment of the Duas Lagoas and Zumbi Ecological Reserves;
- Reforestation of the Tapacurá Reservoir Environmental Protection Area.

Information at www.sectma.pe.gov.br.

PICUS Program (FUNBIO). See comments in question 33. Among the seven associated projects selected by FUNBIO for the PICUS program, we highlight the existence of two projects specifically dealing with conservation, restoration and sustainable use of Forests with Araucaria trees in the state of Paraná, which are coordinated by The Nature Conservancy (TNC) and Rureco Foundation. www.maternatura.org.br and www.funbio.org.br.

178. Is your country undertaking any measures to promote the sustainable use of forest biological diversity?

Options	X	Details

a) Yes	X	Please specify priority actions in relation to each objective of goal 4 and describe measures undertaken to address these priorities
		Goals of the National Forests Program (see comments in question 174 d).
b) No		Please provide reasons below

Further comments on the promotion of the sustainable use of forest biological diversity (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).

See comments in questions concerning Articles 10, 8j and agro-biodiversity work program.

Forestry Pronaf. This is a rural credit line of the National Program for Strengthening Family Agriculture [PRONAF – *Programa Nacional de Fortalecimento da Agricultura Familiar*], which provides incentives to the adequate management of natural resources, encouraging the planting of forest species and supporting family producers in the implementation of sustainable management projects of multiple use, reforestation and agro-forestry systems, providing incentives to the preservation of national forests and the restoration of degraded areas, with the environmental planning and regularization of rural properties. Alterations in the Forestry Pronaf credit line were made for the 2004/2005 Harvest Plan, altering the limit of the amount to be contracted for the first year of the project, and extending the payment deadline to 12 years, and to 16 years for reimbursement.

Forest Commercial Planting and Restoration Program [PropFlora – *Programa de Plantio Comercial e Recuperação de Florestas*]. The PropFlora is an economic mechanism developed by the government to propitiate the participation of small and medium producers of the entire country in wood production. Reformulated by a coordination among the Ministry of the Environment, Ministry of Agriculture, Ministry of Development and Banco do Brasil to respond to the needs of the forestry producers, the PropFlora will have R\$ 50 millions available in 2005 to support forest planting. The Program will contribute to the provisioning of wood for industrial use and to the recomposition and maintenance of preservation areas and legal reserves. The objective of the Program is to reduce the deficit of raw materials for the industry and, by increasing and diversifying rural productive activities, to generate employment and income in a decentralized manner, leverage the technological and commercial development of the sector, fix population in rural areas, and reduce migration into cities by promoting the economic viability of properties and, furthermore, to contribute to the preservation of native forests and remaining ecosystems.

Incentives for Silviculture and Agro-forestry Systems for Family Agriculture. The National Program to Provide Incentives to Silviculture and Agro-forestry Systems for Family Agriculture (Forestry Pronaf) was reformulated and, beginning in 2005, will be able to meet the demand of small Brazilian forestry producers, both for natural forests and planted forests. To solve one of the main constraints to the implementation of the Forestry Pronaf, which is the lack of technical assistance, the Ministry of the Environment, in partnership with the Ministry of Agrarian Development and with resources from the National Environment Fund [FNMA – *Fundo Nacional do Meio Ambiente*], is developing integrated policies in collaboration with the states, municipalities and organizations of the civil society to meet the demand of 10,000 producers in 2005. The program has the objective of promoting the adequate management of natural resources, stimulating the planting of forest species and supporting family producers in the implementation of sustainable management projects of

multiple use, reforestation and agro-forestry systems.

Dendrogene Project. The project for the genetic conservation in managed forests of the Amazon originated from the concern for the sustainable use of native forests in the Amazon region. The genetic advances alert to the importance of considering biodiversity in its basic elements in order to ensure its future, and the advances in computer systems propitiate working with complex systems such as the tropical forest, seeking to understand its functioning and thus to attempt to conserve it for future generations. The project is innovative in the use of knowledge and new technologies in the search for forest management sustainability, and from the start was conceived as a multi-institutional project. The general goal of the project is to attain the sustainable use and conservation of genetic resources of humid tropical forests of the Brazilian Amazon region. Specifically, the objective of the project is to develop mechanisms to use scientific knowledge (botany, reproductive ecology, and genetics), to promote sustainable forest management. The project will contribute to the development of criteria and practical indicators of genetic sustainability of forest management.

Information at <http://www.cpatu.embrapa.br/dendro/principal.htm>.

Forest Certification Program [Cerflor – Programa de Certificação Florestal]. See comments in question 76.

179. Is your country undertaking any measures to promote access and benefit-sharing of forest genetic resources?

Options	X	Details
a) Yes	X	Please specify priority actions in relation to each objective of goal 5 and describe measures undertaken
		Decisions and deliberations of the Genetic Heritage Management Council [CGEN - <i>Conselho de Gestão do Patrimônio Genético</i>].
b) No		Please provide reasons below

Further comments on the promotion of access and benefit-sharing of forest genetic resources. (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets)

CGEN. See comments in question 114.

Contract for accessing genetic resources in the Amazon. See comments in question 114.

Programme element 2 – Institutional and socio-economic enabling environment

180. Is your country undertaking any measures to enhance the institutional enabling environment for the conservation and sustainable use of forest biological diversity, including access and benefit-sharing?

Options	X	Details
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a) Yes	X	Please identify priority actions in relation to each objective of Goal 1 and describe measures undertaken to address these priorities
		The National Forests Program supports institutional capacity-building and strengthening (see comments in Box LXIX). Bill on the Management of Public Forests.
b) No		Please provide reasons below
Further comments on the enhancement of the institutional enabling environment for the conservation and sustainable use of forest biological diversity, including access and benefit-sharing (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).		
See comments in Article 10.		

181. Is your country undertaking any measures to address socio-economic failures and distortions that lead to decisions that result in loss of forest biological diversity?

Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of Goal 2 and describe measures undertaken to address these priorities
		As an inter-ministry program, the National Forests Program coordinates sectoral policies and programs to minimize the loss of biodiversity.
b) No		Please provide reasons below

Further comments on review of socio-economic failures and distortions that lead to decisions that result in loss of forest biological diversity (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).

It is important to note that the mentioned initiatives are limited, given the size of the country.

Program of Socio-environmental Development of the Rural Family Production in the Amazon (PROAMBIENTE). See comments in question 175.

Project "Support to Sustainable Forest Management in the Amazon – ProManejo". Forest management is the alternative to make the benefits from forestry production compatible with the maintenance of the services provided by the forest. Based on this context, the Project for the Support to Forest Management in the Amazon – ProManejo was created within the Pilot Program for the Protection of Tropical Forests (PPG7), to support the development and adoption of sustainable forest management systems in the Amazon, emphasizing the exploitation of timber products, through strategic actions and pilot experiences in priority areas. Executed by IBAMA through the Directorate of Forests, and by the Ministry of the Environment through the Secretariat of Biodiversity and Forests/Directorate of the National

Forests Program [PNF – *Programa Nacional de Florestas*], the ProManejo works within four components: Strategic Studies to Support the Elaboration of Public Policies; Support to Promising Forest Management Initiatives; Development and Testing of a Pilot System to Control Timber Activity in the Amazon; and Support to the Management of the Tapajós National Forest, emphasizing public participation. Information at <http://promanejo.ibama.gov.br>.

National Forests Program. See comments in Box XXVII.

182. Is your country undertaking any measures to increase public education, participation and awareness in relation to forest biological diversity?

Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of goal 3 and describe measures undertaken to address these priorities
		MMA representative councils propitiate public participation in the decision-making processes (see comments in question 57 and Box LXVIII). There are many environmental education actions directed at forest biological diversity.
b) No		Please provide reasons below

Further comments on measures to increase public education, participation and awareness in relation to forest biological diversity (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).

National Environmental Education Policy, National Environmental Education Program [PRONEA – *Programa Nacional de Educação Ambiental*], Program “Let’s Take Care of Brazil with the Schools”, Conscious Conduct in Natural Environments Program, Bill 1016/2003. See comments in question 91.

Green Room Project and **Environmental Education at the Pontal do Paranapanema.** See comments in question 94.

V Brazilian Forum on Environmental Education. See comments in question 96.

Programme element 3 – Knowledge, assessment and monitoring

183. Is your country undertaking any measures to characterize forest ecosystems at various scales in order to improve the assessment of the status and trends of forest biological diversity?

Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of Goal 1 and describe measures undertaken to address these priorities

b)	No	<p>Priority Areas for the Conservation and Sustainable Use of Brazilian Biodiversity (see comments in question 36).</p> <p>Satellite monitoring actions, taxonomic knowledge and research on forest biodiversity, contribute towards achieving Objective 1.</p> <p>Geoma Program (see comments below)</p>
		Please provide reasons below

Further comments on characterization of forest ecosystems at various scales (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).

Geoma Program. The Geoma Program (Geo-processing of the Amazon Region) comprises a thematic network of research on environmental modeling of the Amazon, and has the objective of presenting geo-environmental data capable of assisting the development policies for the Amazon region, considering the territorial management. The program will develop unprecedented digital models capable of predicting the dynamics of ecological and socio-economic systems at different geographical scales, allowing a better guidance for sustainable development actions in the Amazon at the local, regional and national levels. Seven institutions connected to MCT compose the program. This network will connect professionals from several fields of knowledge: computing mathematics, economy, geographical information, remote sensing, ecology, demography and meteorology, among others, to generate information and knowledge applicable to public policies concerning environmental issues. The Geoma Program is another example of the use of science and technology as an instrument for effective national cooperation. The following institutions support this initiative: National Institute for Amazon Research [INPA – *Instituto Nacional de Pesquisas da Amazônia*], National Institute of Space Research [INPE – *Instituto Nacional de Pesquisa Espacial*], Mamirauá Sustainable Development Institute [IDSM – *Instituto de Desenvolvimento Sustentável Mamirauá*], Emilio Goeldi Museum [MPEG – *Museu Paraense Emílio Goeldi*], Bioinformatic Scientific Computation National Laboratory [LNCC – *Laboratório Nacional de Computação Científica em Bioinformática*], the Brazilian Physics Research Center [CBPF – *Centro Brasileiro de Pesquisas Físicas*], and the Pure and Applied Mathematics Institute [IMPA – *Instituto de Matemática Pura e Aplicada*]. Information at www.mct.gov.br.

The following initiatives contribute to the **characterization of Brazilian forest ecosystems**:

“Evaluation of the Knowledge on Brazilian Biodiversity” (Lewinsohn, T. M. and Prado, P. I. 2000); Ducke Reserve Flora Project; Atlantic Forest Program [PMA - *Programa Mata Atlântica*] of the Rio de Janeiro Botanical Garden Research Institute [JBRJ - *Jardim Botânico do Rio de Janeiro*]; Caxiuanã Multi-taxa Inventory; PROBIO Cachimbo - "Landscapes and Biodiversity: An Integrated Perspective for the Inventory and Conservation of the Cachimbo Mountain Range"; Conserv-Ação Project (Votorantim Celulose e Papel - VCP). See comments in question 19.

PRODES Project (Satellite Monitoring of the Brazilian Amazon Forest); Amazon Protection System [SIPAM – *Sistema de Proteção da Amazônia*]; Map of the Vegetation Cover of Brazil. See comments in question 20.

Collection and Digitalization of Data on Natural Resources – Fauna and Flora (IBGE). See comments in question 22.

Long Term Ecological Research Program [PELD – *Pesquisas Ecológicas de Longa Duração*]. See

comments in question 26.

Pro-Várzea. See comments in question 72.

Biodiversity Research Program [PPBio – Programa de Pesquisa em Biodiversidade]. See comments in question 89.

Integrated Information for Amazon Protection. See comments in question 108.

Large-Scale Biosphere-Atmosphere Experiment in Amazon. See comments in question 130.

PPG7. See comments in question 174

Dendrogene Project. See comments in question 178.

Integrated Monitoring Plan and Wildlife Studies [PIMEF – Plano Integrado de Monitoramento e Estudos de Fauna]. Executed by the Vale do Rio Doce Company, this plan has the goal of organizing the efforts and resources applied in the management and conservation of wildlife in the region of the Carajás mosaic, through the implementation of the following actions:

- Elaboration of a database and collection of existing data;
- Complement the wildlife inventories and filling gaps of knowledge;
- Monitoring of endangered and endemic species;
- Study of indicator species for environmental quality;
- Protocol for wildlife translocation at areas with mining activity;
- Elaboration of an Environmental Education plan;
- Integration of PIMEF results with the Management Plans of the Conservation Units within the mosaic.

184. Is your country undertaking any measures to improve knowledge on, and methods for, the assessment of the status and trends of forest biological diversity?

Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of goal 2 and describe measures undertaken to address these priorities
		Priority Areas for the Conservation and Sustainable Use of Brazilian Biodiversity (see comments in question 36). Satellite monitoring actions, taxonomic knowledge and research on forest biodiversity, contribute towards achieving Objective 2.
b) No		Please provide reasons below

Further comments on improvement of knowledge on and methods for the assessment of the status and trends (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).

See comments in question 183.

185. Is your country undertaking any measures to improve the understanding of the role of forest

biodiversity and ecosystem functioning?		
Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of goal 3 and describe measures undertaken to address these priorities
		Priority Areas for the Conservation and Sustainable Use of Brazilian Biodiversity (see comments in question 36). Satellite monitoring actions, taxonomic knowledge and research on forest biodiversity, contribute towards achieving Objective 3. LBA Program (see comments in question 130).
b) No		Please provide reasons below
Further comments on the improvement of the understanding of the role of forest biodiversity and ecosystem functioning (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).		
Mamirauá Project (CNPq) . See comments in question 72.		
<p>Biological Dynamics of Forest Fragments Program [PDBFF – Programa Dinâmica Biológica de Fragmentos Florestais]. For over 20 years, the program has been conducting research on the effects of forest fragmentation in the Amazon. The research was planned to study plant and animal communities in the forest fragments before and after isolation caused by the creation of pasture areas, comparing this information through time with control areas of continuous forests. The project also develops basic tropical ecology studies, studies on forest regeneration, and on the restoration of degraded areas. Each year, approximately 20 different research activities are developed by PDBFF. The fragmented forests, however, are very dynamic in time and space. This demonstrated why long-term studies such as the PDBFF are so important. These studies are vital for a better understanding of the various effects of forest fragmentation, thus allowing us to better plan land use. The PDBFF also trains students and technicians from Brazil and Latin America. Training activities include: trainee program for students who have recently graduated from college; financial support for developing Masters and PhD theses in the PDBFF areas; intensive course on the ecology of the Amazon forest for post-graduation students; short-term course for decision makers, focusing on the application of ecological principles for the management of natural resources in the Amazon region; and intensive course on key aspects of the forest's ecology, management and conservation, directed at technicians and college students of the North region.</p>		
<p>Institute for Amazon Environmental Research [IPAM – Instituto de Pesquisas Ambientais da Amazônia]. The activities proposed by IPAM are structured in four large programs, and each program includes several projects, concerning various fields of knowledge and education and extension activities, which involve the training of students, teachers, researchers, and rural producers:</p> <ul style="list-style-type: none"> • Forest Ecology: This program includes research on the functioning of the Amazon ecosystems and the consequences of the changes in land use on their integrity. These studies evaluate the impact of fire, deforestation, forest regeneration, agriculture and livestock activities, and wood exploitation activities on the biochemical processes. At the same time, the human and economic dimensions are considered with the purpose of analyzing the interaction between the economic system 		

and the environment, and valuating the impacts caused by human interference on the Amazon Region.

- **Forest and Communities:** The general objective of the program is to analyze, develop and disseminate practices for the sustainable management of natural resources in collaboration with rural family producers of the Amazon. The program aims at improving life quality of rural producers, through the strengthening of social organizations and the integrated management of natural resources, aggregating to the family economy the agriculture and livestock resources, and the extractive resources.
- **Floodplain Management:** As a response to the intensified commercial fishing and the expansion of extensive cattle raising, the local communities are occupying the floodplain lakes and implanting a decentralized model of fisheries management, developing forms of community management of natural resources. The Floodplain Management Program seeks to support this initiative through ecology and management studies on the lakes, and the strengthening of agriculture, environmental education and local institutions for the participatory management of the floodplain lakes and natural fields.
- **Sceneries:** This initiative combines analyses, studies, elaboration and intervention activities which promote the interface between research results and public policies. The general objective is to coordinate proposals arriving from other programs of the Institute and support social movements in the elaboration of proposals which may influence governmental policies for the region.

See also comments in question 183.

186. Is your country undertaking any measures at national level to improve the infrastructure for data and information management for accurate assessment and monitoring of global forest biodiversity?

Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of goal 4 and describe measures undertaken to address these priorities
		Brazil conducts actions to generate data and information on biodiversity in the forests within its territory. However, capacity to perform this task is still not adequate, and therefore several gaps remain. Therefore, it is not possible for Brazil to monitor forests beyond its territory, although information and data on the Brazilian forests are critically important for global forest diversity.
b) No		Please provide reasons below

Further comments on the improvement of the infrastructure for data and information management (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).

Amazon Vigilance System [SIVAM – Sistema de Vigilância da Amazônia]: Created to establish a new order in the region. SIVAM is a network of information collection and processing. The information obtained by each governmental agency working in the Amazon will be gathered, treated and integrated. This will

be a large database, sharing information with all agencies. This initiative eliminates the duplication of efforts which still exists, adapting the use of available tools and resources to the execution of tasks, respecting institutional competencies. SIVAM will have a common and integrated infrastructure of technical tools for data acquisition and treatment, and for displaying and broadcasting images, maps, forecasts and other information. These tools include remote sensing, environmental and meteorological monitoring, exploitation of communications, vigilance through radars, computing resources, and telecommunication tools. The application of these technical tools and the association of data obtained by the various sensors will provide thematic information adequate to the operational needs of each user.

Box XXXI.

Please elaborate below on the implementation of this programme of work and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) The coordination of policies, programs and actions directed at forest conservation is conducted by the National Forest Program. During the last years, the National Forest Program was strengthened. A highlight is the creation of the Coordinating Commission of the National Forests Program [CONAFLOR – *Comissão Coordenadora do Programa Nacional de Florestas*], a forum which allows the participation of social players important for the management of Brazilian forests in the decision-making process. The systems for monitoring fire in the Amazon were also strengthened, improved and consolidated. Creation of Conservation Units in forest areas. Decree 750/93, regularization of the Atlantic Forest. Implementation of the Atlantic Forest Biosphere Reserve. Atlantic Forest Network. Monitoring of the remaining forest cover of the Atlantic Forest (SOS Mata Atlântica). SIPAM (see comments in question 20). Biota-FAPESP Project (see comments in questions 19, 26 and 88). Ecological Corridors (see comments in question 39).
- b) No direct contributions were made.
- c) Considering that the conservation and adequate management of forests encompass all the focal areas of the CBD 2010 goals (protect the biodiversity components, maintain biodiversity goods and services to maintain human well-being, protect traditional knowledge, innovation and practices, ensure the just and equitable sharing of benefits arising from the use of genetic resources), it may be stated that the mentioned initiatives contribute towards achieving all goals.
- d) The mentioned initiatives indirectly contribute to the implementation of all components of the National Biodiversity Policy, since they are guided by the need to integrate the various elements which are important for the conservation of biodiversity. These initiatives also directly contribute to the implementation of the following specific objectives of the National

Biodiversity Policy:

- 12.2.8. Promote, in an integrated manner, and when legally allowed, the sustainable use of forest resources, timber and non-timber, fisheries and wildlife, with privilege to the certified management, the replacement, the multiple use and the maintenance of stocks.
 - 13.3.9. Create forest units in the Brazilian states, to produce and provide seeds and seedlings for the implementation of projects of environmental restoration and recovery of degraded areas, supported by universities and research centers in the country.
- e) The mentioned initiatives contribute towards achieving Objective 7 of the MDGs (ensure environmental sustainability).
- f) The main constraints identified for the Conservation of Forest Ecosystems were: 1) great challenges – need for greater political support; low representativeness and integration of biodiversity themes into other sectors; loss of traditional knowledge; to strengthen institutional capacity; limited use of existing scientific and traditional knowledge; limited understanding and documentation on the loss of biodiversity and associated benefits; lack of economic incentive measures; limited benefit-sharing; poverty; population pressure; unsustainable consumption and production standards; lack of capacity-building of local communities; lack of knowledge and practice on ecosystem management initiatives; limited capacity to execute legislation; 2) great/medium challenges – low representativeness and integration of biodiversity themes in other sectors; 3) medium challenges – few preventive and proactive measures; limited technology and experience transfer; limited access to knowledge and information; lack of public education and knowledge at all levels; lack of financial, human and technical resources; lack of synergy at the national and international levels; limited horizontal cooperation among involved parties; lack of effective partnerships; limited engagement of the scientific community; need to improve existing policies and legislation; natural disasters and environmental change; 4) smaller challenges – limited public participation and involvement of interested parties; difficulties in adapting scientific capacity to achieve all objectives.

Biological diversity of dry and sub-humid lands

187. Is your country supporting scientifically, technically and financially, at the national and regional levels, the activities identified in the programme of work? (decisions V/23 and VII/2)

a) No	
b) Yes (please provide details below)	X

Further comments on scientific, technical and financial support, at the national and regional levels, to the activities identified in the programme of work.

Bill 1847/03. This Bill institutes the National Program to Support Native Producers of the Cerrado, with the objective of providing incentives to the sustainable management of the region and the conservation of species native to this biome. Several actions of the program remain the responsibility of the governmental Executive body, such as to identify and map the Cerrado areas occupied by traditional communities which collect *pequi* (a native fruit) and other native products; conduct studies aiming at the

recovery of biodiversity in public properties and unoccupied public lands in this biome; and to provide incentives to the industrialization and commercialization of *pequi* and other typical fruits. According to the proposal, the governmental actions for planning and implementing program activities will count with the participation of representatives of public institutions and non-governmental organizations connected to family agriculture, to rural workers and producers or to environmental protection. The public properties and unoccupied public lands which present specific agriculture potential will be destined to settlement projects of rural producers, according to the agro-extractive reserve models. Additional information is available at

http://www2.camara.gov.br/internet/proposicoes/chamadaExterna.html?link=http://www3.camara.gov.br/internet/sileg/prop_lista.asp?sigla=PL&Numero=1847&Ano=2003.

Celso Furtado National Institute of the Semi-Arid [INSA-CF – Instituto Nacional do Semi-Árido Celso Furtado]. The INSA-CF has the purpose of promoting the scientific and technological development and the integration of the socio-economic centers and strategic ecosystems of the Brazilian semi-arid region, as well as to conduct, execute and disseminate studies and research on scientific and technological development for strengthening the sustainable development of the region. Additional information at http://www.mct.gov.br/legis/portarias/123_2005.htm .

RENORBIO – Northeast Biotechnology Network of the Ministry of Science and Technology [MCT – Ministério de Ciência e Tecnologia]. The RENORBIO has the purpose of accelerating the development process of the Northeast region through biotechnology, integrating efforts of training of human resources on scientific and technological development to produce socio-economic impacts which propitiate the improvement of life quality of the population, with the effective participation of institutions acting in the Biotechnology field, through a strategy to promote the convergence of the scientific development in biology conducted in the various areas of biotechnology application, aiming at contributing to the elaboration and monitoring of public policies in the Northeast region. Additional information at http://www.mct.gov.br/legis/portarias/598_2004.htm .

Millennium Institute of the Semi-Arid [IMSEAR – Instituto do Milênio do Semi-árido]. The following research areas are included in the project: biodiversity, bio-prospection, conservation of genetic resources, and conservation of hydrological resources. The project seeks to:

- Delineate the phyto-chemical profile of plants of the Brazilian semi-arid region which possess ethnobotanical or ethnopharmacological history;
- Evaluate the pharmacological activity of the extract of these plants;
- Test the pharmacological activity of the secretion produced by anurans;
- Purify and characterize the structure of the compounds present in extracts with previously identified pharmacological activity;
- Evaluate the pharmacological activity of the pure substances obtained;
- Develop toxicological studies of the substances with proved pharmacological activity.

All this research associated to the biota must be associated to the establishment of *ex situ* germoplasm banks, which must fulfill several roles, among which the conservation of the genetic diversity of species, complementing the *in situ* conservation, the characterization of this diversity, the availability of material

for chemical and pharmacological studies, and the production of seedlings and/or seeds for the development of economic activities or restoration of degraded areas, ensuring raw materials, environmental, cultural and economic benefits to the communities which use genetic resources, directing the various uses of biological diversity to the improvement of human life quality. Additional information available at <http://www.imsear.org.br>.

Xingó. The Xingó Program is a multidisciplinary activity developed by the National Scientific and Technological Development Council [CNPq – *Conselho Nacional de Desenvolvimento Científico e Tecnológico*] in collaboration with the São Francisco Hydroelectric Company [CHESF – *Companhia Hidroelétrica do São Francisco*], with the purpose of using the infrastructure established for the construction of the Xingó Hydroelectric Power Plant, on the São Francisco river, which will become a Shared Nucleus of Scientific and Technological Development. This Nucleus will function with the participation of the five federal universities in the region, in addition to other state institutions of higher education of the neighboring states, as well as renowned Brazilian research institutes.

National Program for the Conservation and Sustainable Use of the Cerrado Biome. This is a program proposed by the Cerrado Work Group of the Secretariat of Biodiversity and Forests of the Ministry of the Environment. Its objective is to seek the conditions to revert the negative socio-environmental impacts through the conservation, restoration, recovery and sustainable management of natural ecosystems and agriculture and livestock ecosystems, as well as through adding value and recognition to its traditional peoples. The program predicts the creation of the Cerrado Portal and the elaboration of a public notice of the National Environment Fund for the Capacity-Building of Multiplying Agents and Technical Assistance and Rural Extension on Forest Activities to Family Agriculture Producers of the Cerrado Biome. (<http://www.mma.gov.br/fnma/apoio/di/ed0204.html>)

Small Projects Program (PPP/GEF/UNDP). The Small Projects Program [PPP – *Programa de Pequenos Projetos*] is the Brazilian version of the Small Grants Programme (SGP), a project support line created following a proposal presented by NGOs attending the Rio 92 to the Board of the Global Environment Facility, with support from UNDP. The PPP grants small donations to non-governmental organizations and community-based organizations for the implementation of projects to promote sustainable ways of life in the Cerrado. During these 10 years in Brazil, the program supported 158 projects in 14 states encompassed by the Cerrado, with higher concentration in the state of Goiás, followed by Minas Gerais and Tocantins. All projects supported by PPP contribute, directly or indirectly, to the conservation of biodiversity.

There is a wide socio-cultural diversity among the beneficiaries of the PPP, among which various indigenous ethnic groups, remaining quilombos, coconut breakers and small agro-extractive rural producers. For the most part, the projects supported by PPP aim at adding value to traditional knowledge associated to Cerrado biodiversity, in addition to promoting learning and political coordination for protecting the biome and the peoples which have historically inhabited the region. The PPP also supports numerous projects in rural settlements, with the purpose of promoting a new model for soil occupancy and use of the rural landscapes of the Cerrado. Information at www.ispn.org

The **Project for the Conservation and Sustainable Use of Brazilian Biological Diversity** [PROBIO – *Projeto de Conservação e Utilização Sustentável da Diversidade Biológica Brasileira*] of the Directorate of Biodiversity Conservation (SBF/MMA), provided financial support, since 2002, to 24 sub-projects which encompass dry and sub-humid ecosystems:

- Implementation of the Sustainable Development Plan of the area around the Grande Sertão Veredas National Park, executed by the Pró-Natureza Foundation (FUNATURA). Biome: Cerrado;
- Wild buffaloes of the Vale do Guaporé Biological Reserve, executed by EMBRAPA – CPAR. Biome: Amazon Forest;
- Biological inventory in the valleys of the Jequitinhonha and Mucuri rivers in the states of Minas Gerais and Bahia, executed by Conservation International of Brazil. Biome: Atlantic Forest and Uruguayan Savannas;
- Analysis of the biodiversity variations of the caatinga with support from remote sensing and geographic information system to support regional conservation strategies, executed by Associação Caatinga. Biome: Caatinga;
- Biodiversity of the Grasslands of the Araucaria Plateau, executed by the Federal University of Rio Grande do Sul. Biome: Atlantic Forest and Uruguayan Savannas;
- Chapada Diamantina: biodiversity, executed by the Plants of the Northeast Association [APNE - *Associação Plantas do Nordeste*]. Biome: Cerrado and Pantanal;
- Inventory of the aquatic biota aiming at the conservation and sustainable use of the cerrado biome (Rio Paranã mountain range and valley), executed by the Scientific and Technological Ventures Foundation [FINATEC – *Fundação de Empreendimentos Científicos e Tecnológicos*]. Biome: Cerrado and Pantanal;
- Inventory of the biological diversity of the Jauru Complex, executed by the Federal University of Mato Grosso do Sul Foundation [UFMS – *Universidade Federal do Mato Grosso do Sul*]. Bioma: Cerrado and Pantanal;
- Biodiversity Inventory of the Paranã Valley and Mountain Range and of the South of Tocantins, executed by the Scientific and Technological Ventures Foundation [FINATEC – *Fundação de Empreendimentos Científicos e Tecnológicos*]. Biome: Amazon and Cerrado;
- Ecological evaluation and selection of priority areas for the conservation of Amazonian savannas, Marajó archipelago, Pará state, executed by the Emílio Goeldi Museum [MPEG – *Museu Paraense Emílio Goeldi*]. Biome: Cerrado and Pantanal;
- Biodiversity inventories in the Amolar Mountain Range, executed by the Support to Life in the Tropics Foundation [ECOTRÓPICA – *Fundação de Apoio à Vida nos Trópicos*]. Biome: Cerrado;
- Conserving *Caprimulgus candicans* in Brazil, executed by the Scientific and Technological Ventures Foundation [FINATEC – *Fundação de Empreendimentos Científicos e Tecnológicos*]. Biome: Cerrado;
- Management Plan for *Lonchophylla dekeyseri*, executed by the Scientific and Technological Ventures Foundation [FINATEC – *Fundação de Empreendimentos Científicos e Tecnológicos*]. Biome: Caatinga;
- Diagnosis of pollinators in the São Francisco valley, executed by the Agricultural and Livestock Research Center of the Semi-Arid Tropics [Embrapa Semi-Árido – *Centro de Pesquisa Agropecuária do Trópico Semi-Árido*]. Biome: Caatinga;
- Management Plan for Fruit Tree Pollinators, executed by the Bahia Polytechnic School. Biome: Cerrado;
- Murici (*Byrsonima crassifolia*, Malpighiaceae) pollinators in native areas, Maranhão: species diver-

sity, nesting and their sustainable use in agriculture, executed by Souzafrade Development Support Foundation of the UFMA [FSADU – *Fundação Souzafrade de Apoio ao Desenvolvimento*]. Biome: Caatinga and Atlantic Forest;

- Diagnosis and management of the cotton and graviola pollinators, executed by Development Support Foundation of the Federal University of Pernambuco [FADE – *Fundação de Apoio ao Desenvolvimento*]. Biome: Cerrado;
- Araticum (Annonaceae) pollinators in the cerrado of Mato Grosso, executed by the State University of Mato Grosso [UNEMAT – *Universidade Estadual de Mato Grosso*]. Biome: Cerrado;
- Sustainable management of *Xylocopa* spp. (Apidae, Xylocopini), pollination and production of the yellow passion-fruit (*Passiflora edulis* f. *flavicarpa*) in the *triângulo mineiro*, executed by the University Support Foundation – Federal University of Uberlândia. Biome: Cerrado;
- Inventory of indicators sensitive to climatic parameters in the Pantanal, executed by the Dalmo Gioacometti Foundation. Bioma: Pantanal;
- Plants of the Future Project – Central-West Region, executed by Embrapa Genetic Resources and Biotechnology – Embrapa Cenargen. Biome: Cerrado;
- Species of the Northeastern Flora of Potential Economic Importance, executed by the Northeastern Plants Association [APNE - *Associação Plantas do Nordeste*]. Biome: Caatinga;
- Prospection and characterization of the populations of the species of the *Gossypium* genus, native or naturalized in Brazil, executed by EMBRAPA Cotton. Biome: Caatinga;
- Identification and dissemination of reports on plant species of the South Region of present or potential economic importance for direct use and/or to increase commercial use, aiming at supporting the development of products directed at the internal and external markets, executed by the Research and University Extension Support Foundation [FAPEU – *Fundação de Amparo à Pesquisa e Extensão Universitária*]. Biome: Atlantic Forest and Uruguayan Savannas.

Altitudinal Forest Enclaves of Pernambuco and Paraíba: Natural History, Ecology and Conservation [*Brejos de Altitude em Pernambuco e Paraíba: História Natural, Ecologia e Conservação*]. This book was published in 2004, and presents the results of four years of research conducted within the project “Restoration and management of natural ecosystems of Altitudinal Forest Enclaves of Paraíba and Pernambuco”, supported by the Ministry of the Environment through PROBIO. This project had the objective of promoting the conservation of remaining fragments of altitudinal forest enclaves in the *agreste* [area between the coastal forest and the inland semi-arid region] of Pernambuco and Paraíba, through the sustainable use of these resources, considering the interests of the local population and counting with its participation, through the establishment of effective mechanisms for transferring research results to communities. This work involved universities, especially the Federal University of Pernambuco and Federal University of Paraíba, in addition to the Northeastern Ecology Society, the Federal University of Pernambuco Support Foundation (FADE), and various others. The on line version of the publication is available at http://www.mma.gov.br/?id_estrutura=14&id_conteudo=1989 .

Caatinga Biodiversity: Priority Areas for Conservation. This publication received support from the Directorate of the Biodiversity Conservation Program [DCBio – *Diretoria de Conservação da Biodiversidade*] through the Project for the Conservation and Sustainable Use of Brazilian Biodiversity (PROBIO),

and was published in 2004. It contains specific text which provided the basis to indicate priority areas, actions and public policies for biodiversity conservation in the Caatinga, both previously generated and those defined during the workshop for the “Evaluation and Priority Actions for the Conservation of Caatinga Biodiversity”, conducted from 21 to 26 May 2000, by the Ministry of the Environment. The text combines biotic information (flora, invertebrates, aquatic biota, reptiles, amphibians, birds and mammals) and abiotic information (conservation strategies, abiotic factors, human pressure and regional development, and sustainable use of biodiversity). To these, the results generated by the integration and restructuring of obtained data were also added, after being analyzed by interdisciplinary groups, combined by previously defined regions: Maranhão/Piauí, Ceará, Rio Grande do Norte/Paraíba. In addition to the regional groups, an integrator group was also formed to combine all recommendations proposed by the thematic groups, generating a single group of proposals for public policies for the conservation of Caatinga biodiversity and one general map of priorities.

Ecological Corridor Joining the Serra da Capivara and the Serra das Confusões. A MMA administrative ruling signed in 11 March 2005 defines the implementation of an ecological corridor connecting the portions of Caatinga protected by the National Parks of Serra da Capivara and Serra das Confusões, in Piauí state, with 412,000 ha. The corridor and the two national parks will form the first mosaic of conservation units to have a legally instituted management council since the establishment of the National System of Conservation Units [SNUC – *Sistema Nacional de Unidades de Conservação*] in 2000. The area will be managed by IBAMA in partnership with representatives of the federal, state and municipal governments, the American Man Museum Foundation [Fundham – *Fundação Museu do Homem Americano*], FETAG, Federal University of Piauí, non-governmental organizations, settled families of the agrarian reform, Pastoral da Terra, and Office of Prosecutors, among others. The Ministry of the Environment will initially invest R\$ 300,000 from the resources of the Caatinga GEF (UN Global Environment Facility) and from the MMA National Forests Program, to support environmental studies and technical assistance to settlements in the corridor area. The resources will also support the elaboration of a sustainable management plan for the settlements, which should hold approximately 1,000 families in two pieces of land. The objective is to stimulate non-timber activities, avoiding deforestation. The regional studies may also result in the extension of the area of the Serra da Capivara National Park or in the creation of a new protected area.

Desertification Combat. This is a program of the Federal Government Pluri-annual Plan (2004-2007), with the objective of reducing the growth rates of the areas which already became deserts or areas in the process of desertification.

Pernambuco State Government. Through the Secretariat of Science, Technology and Environment, the state conducts the following projects, aiming at caatinga conservation:

- Conservation and Revitalization of the São Francisco River Watershed;
- Sceneries for the Caatinga Biome;
- Desertification Combat and Living with Drought;
- Protection and Environmental Conservation of the Ipojuca River Watershed;
- Protection and Environmental Conservation of the Araripe Region in the State of Pernambuco.

Information at www.sectma.pe.gov.br.

Northeastern Plants Association [PNE – Associação Plantas do Nordeste]. The Association executed the following projects, aiming at the conservation and sustainable use of the caatinga biome:

- Sustainable management of the woody vegetation of the caatinga, emphasizing firewood production for household use of the communities of the Brazilian Northeast - PE;
- Creation of the Millennium Institute of the Semi-Arid: Biodiversity, Bio-prospection and Conservation of Natural Resources – [Imsear – *Instituto do Milênio do Semi-Árido*];
- Carbon Sequestration Project in the Semi-Arid;
- Chapada Diamantina Biodiversity Project;
- Plant Species of the Northeast with Potential Economic Importance;
- Inventory of the Vegetation Cover and Soil Use of the Caatinga Biome;
- Sustainable Use of Biodiversity in Caroolina;
- Sustainable Forest Management of the Caatinga in Small and Medium Rural Properties of the Moxotó Region - PE;
- Women in Artisanal Production in Caroolina;
- Caatinga Forest Management Network;
- Caatinga Forest Seeds Network;
- Northeastern Plant Information Center [CNIP - *Centro Nordestino de Informação sobre Plantas*] – Information management and digitalization.

Information at www.plantasdonordeste.org.

Embrapa Semi-Arid. The Brazilian Agricultural and Livestock Research Company [Embrapa – *Empresa Brasileira de Pesquisa Agropecuária*] possesses a Tropical Semi-Arid Agricultural and Livestock Research Center (Embrapa Semi-Arid) in the semi-arid region of the Brazilian Northeast, located in Petrolina (PE). This Center has the mission of propitiating competitive and sustainable technological solutions for agribusiness in the Tropical Semi-Arid region. Among its various research and development lines, the Center works for the conservation and sustainable use of biodiversity components of the caatinga biome; the desertification combat; the development of social and economic alternatives to improve human coexistence with drought through soil and water management; the integrated control of pests and diseases affecting the main cultivated species; the integrated production and quality improvement of food items; in addition to promoting environmental education actions and the rational use of caatinga forage plants to feed goats and sheep.

Grande Sertão Veredas National Park (MG). This program is executed by the Pró-Natureza Foundation (FUNATURA) with resources from The Nature Conservancy (TNC), and comprises three projects:

1. Implementation of the Grande Sertão Veredas National Park (231,000 ha);
2. Elaboration of the Management Plan of the Grande Sertão Veredas National Park;
3. Sustainable Development of the Area Surrounding the Grande Sertão Veredas National Park.

Information at www.funatura.org.br.

Emas Project. This project is executed by The Nature Conservancy, and has the objective of implementing best management practices for agriculture and livestock in pilot areas of the Brazilian Cerrado, to demonstrate the possibility of reducing environmental impacts and to increase economic profit of the rural producers in the region. The following activities are conducted:

- Building alliances with local farmers, rural extension agencies, decision makers, research institutions and non-governmental organizations;
- Development of an insurance fund to finance economic losses during testing of best management practices for agriculture and livestock;
- Dissemination of positive results of best management practices to farmers and local communities;
- Organization of field days;
- Promotion of the sustainable use of natural resources in the area surrounding the Emas National Park in Goiás.

188. Has your country integrated actions under the programme of work of dry and sub-humid lands into its national biodiversity strategies and action plans or the National Action Programme (NAP) of the UNCCD? (decisions V/23, VI/4 and VII/2)

a) No	
b) Yes (please provide details below)	X

Further comments on actions under the programme of work of dry and sub-humid lands integrated into national biodiversity strategies and action plans or the National Action Programme (NAP) of the UNCCD.

PAN-Brasil. See comments in question 189.

The **National Biodiversity Policy** contains specific objectives related to desertification prevention and combat. See comments in question 189.

Cerrado Work Group. The MMA Administrative Ruling nº 358 of 10 September 2003 created the Cerrado Work Group, which is connected to the Secretariat of Biodiversity and Forests of the MMA. (National Program for the Conservation and Sustainable Use of the Cerrado Biome – see comments in question 187).

189. Has your country undertaken measures to ensure synergistic/collaborative implementation of the programme of work between the national UNCCD process and other processes under related environmental conventions? (decisions V/23, VI/4 and VII/2)

a) No	X
b) Yes, some linkages established (please provide details below)	
c) Yes, extensive linkages established (please provide details below)	

Further comments on the measures to ensure the synergistic/collaborative implementation of the programme of work between the national UNCCD processes and other processes under related environmental conventions.

National Action Program to Combat Desertification and to Abate Drought Effects [PAN-Brazil – Programa de Ação Nacional de Combate à Desertificação e Mitigação dos Efeitos da Seca]. This is a planning instrument with the purpose of establishing directives and legal and institutional instruments which allow the optimization of the elaboration and execution of public policies and private investments in the Areas Susceptible to Desertification (ASD), in the context of the policy to combat desertification and to abate the effects of drought, and to promote sustainable development. The program is being constructed through a coordination involving public agencies and civil society, under the coordination of the Secretariat of Hydrological Resources of the MMA (SRH/MMA). The project has the following specific objectives:

- To create the institutional mechanisms for coordination, participation and action among the public sector, civil society and private sector;
- To improve the understanding of the status of desertification processes and drought occurrences in Brazil, to be systematically updated;
- To elaborate directives for the conception, elaboration and revision of policies and actions to support sustainable development in the areas susceptible to or affected by desertification processes;
- To collaborate with states and municipalities in the elaboration and implementation of strategies to combat desertification;
- To create and to strengthen the institutions responsible for combating desertification;
- To implement agreed action leading to the sustainable development of areas affected by of susceptible to desertification processes, according to CCD principles and guidance;
- To institute participatory planning processes and agreement processes among the various players; and
- To create instruments to support production activities which are compatible with the preservation, conservation and sustainable management of natural resources.

Information at <http://desertificacao.cnrh-srh.gov.br/>.

Programme Part A: Assessment

190. Has your country assessed and analyzed information on the state of dryland biological diversity and the pressures on it, disseminated existing knowledge and best practices, and filled knowledge gaps in order to determine adequate activities? (Decision V/23, Part A: Assessment, Operational objective, activities 1 to 6)

a) No	
b) No, but assessment is ongoing	
c) Yes, some assessments undertaken (please provide details below)	X
d) Yes, comprehensive assessment undertaken (please provide details below)	

Further comments on the relevant information on assessments of the status and trends and dissemination of existing knowledge and best practices.

Biodiversity Conservation and Management in the Cerrado Biome [CMBBC – Conservação e

Manejo da Biodiversidade no Bioma Cerrado]. See comments in question 39.

“Sceneries for the Caatinga Biome: Information Systematization”. This study is developed in Recife by the National Council of the Caatinga Biosphere Reserve, the Secretariat of Science, Technology and Environment of Pernambuco [SECTMA – *Secretaria de Ciência, Tecnologia e Meio Ambiente*], and by the Ministry of the Environment. This is the largest inventory of the biome. It reveals that the caatinga is 29.2% larger than what was indicated by official numbers, covering 1,037,517.8 km². The study updates the number of municipalities included in the biome, adding 164 municipalities to the previous inventory, totaling 1,289 municipalities. The same report stresses that the rate of destruction of the *sertão* area [semi-arid] is growing at an accelerated pace. Each year, at least 6,530 km² of its vegetation is destroyed. A little over 51% of the original vegetation cover still remains. If this pressure persists or increases, the scenery for 2010 is desolating: only 32% of the vegetation will remain. Devastation threatens 665,000 km², of which 182,000 are under irreversible desertification process. Information at www.sectma.pe.gov.br.

Map of the “Priority Areas for the Conservation, Sustainable Use and Benefit-Sharing of Brazilian Biodiversity”. See comments in question 36.

Ecosystem Fragmentation – causes, effects on biodiversity and recommendations for public policies. This publication presents the results achieved by 15 sub-projects, which were selected by Probio Public Notice 01/1997, and which were implemented from 1998 to 2002. In a synthesis effort, all the sub-project coordinators and the sub-project technical team members, totaling over 120 authors, jointly produced this publication, which was first published in 2003 and edited again in 2005. The publication presents the results of the analyses conducted to identify causes and consequences of ecosystem fragmentation on Brazilian biodiversity. Based on the results obtained, the book also presents proposals for adaptations, improvements, creation and often for the coordination of public policies aiming at the abatement, prevention and reversal of adverse effects of environmental fragmentation on Brazilian biological diversity.

Program for the Divulagation and Scientific Interchange of the Cerrado Biosphere Reserve in the Federal District. Conducted by the Secretariat of Environment and Hydrological Resources of the Federal District, with funds from the Project for the Consolidation of the Brazilian Biosphere Reserves (BRAMAB II), the program conducts the following actions:

- Establishment of the management system;
- Systematization of scientific information (programs/projects) on the core areas of the Cerrado Biosphere Reserve [RBC - *Reserva da Biosfera do Cerrado*];
- Elaboration, editing and dissemination of the Technical Notebooks of the RBC-DF;
- Establishment of the information center of the RBC-DF;
- Elaboration, editing and distribution of folders about the RBC;
- Elaboration of the Cerrado Yearbook.

Information at www.semarh.df.gov.br.

Caatinga Ecoregional Assessment. Project conducted by The Nature Conservancy, with the following objectives:

- Organization of workshops on this theme to define conservation priorities; and

- Identification of key strategies for the use of this ecosystem.

Program “Let’s Take Care of Brazil – Cerrado”. This program is executed by MMA and has the objective to stimulate, strengthen and coordinate actions, people and institutions aiming at the environmental preservation of the Cerrado, through an education process directed at improving life quality. Eight Demonstration Modules of Restoration of Degraded Cerrado Areas [MDR – *Módulos Demonstrativos de Recuperação*] were implemented in partnership with EMBRAPA – Cerrados and the University of Brasília. An international cooperation process was also initiated for the conservation of the Cerrado, through the establishment of 2 urban wooded areas in the South Embassies Sector, in partnership with the Embassies of Argentina and Venezuela. Additional information is available at www.mma.gov.br/educambiental .

Programme Part B: Targeted Actions

191. Has your country taken measures to promote the conservation and sustainable use of the biological diversity of dry and sub-humid lands and the fair and equitable sharing of the benefits arising out of the utilization of its genetic resources, and to combat the loss of biological diversity in dry and sub-humid lands and its socio-economic consequences? (part B of annex I of decision V/23, activities 7 to 9)

- | | |
|--|---|
| a) No | |
| b) Yes, some measures taken (please provide details below) | X |
| c) Yes, many measures taken (please provide details below) | |

Further comments on the measures taken to promote the conservation and sustainable use of the biological diversity of dry and sub-humid lands and the fair and equitable sharing of the benefits arising out of the utilization of its genetic resources, and to combat the loss of biological diversity in dry and sub-humid lands and its socio-economic consequences.

See comments in question 187.

192. Has your country taken measures to strengthen national capacities, including local capacities, to enhance the implementation of the programme of work?

- | | |
|--|---|
| a) No | |
| b) Yes, some measures taken (please provide details below) | X |
| c) Yes, comprehensive measures taken (please provide details below) | |
| d) Yes, all identified capacity needs met (please provide details below) | |

Further comments on measures taken to strengthen national capacities, including local capacities, to enhance the implementation of the programme of work.

Projects:

- Bioregional Management of the Cerrado EcoMuseum, Cerrado Ecological Corridor, Cerrado – Pantanal Ecological Corridor, Caatinga Biome Conservation and Management Project. See comments in question 39.

- 4th Meeting of Midwives, Women Healers and Herb Doctors of the Cerrado. See comments in question 63.
- Results of the Meetings of the Cerrado Network.
- Monitoring and expansion of the germoplasm bank of medicinal plants of the Cerrado. See comments in question 67.
- Fruits of the Cerrado Project. See comments in question 76.
- VI Krahô Indigenous Seeds Fair, Cerrado is Life. See comments in question 165.
- Small Projects Program (PPP/GEF/PNUD). See comments in question 187.

Cerrado Network. This Network aims at coordinating the environmental NGOs which work in the Cerrado. The Network conducts the following activities:

- Coordination of the NGOs that work in the Cerrado to promote sustainable ways of life, biodiversity conservation and the definition of public policies for the Cerrado.
- Support to the Cerrado Work Group.

Information at www.redecerrado.org.br .

Box XXXII .

Please elaborate below on the implementation of this programme of work and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

- a) The initiatives directed at the conservation and sustainable use of the Cerrado, Caatinga, Pampas and Pantanal are in their initial phase. There's no strong governmental actions in these biomes, so the most important initiatives are conducted by NGOs and Universities. Cerrado Network, Cerrado Work Group. Sustainable Cerrado Program. Biospheres Reserves of the Cerrado, Caatinga and Pantanal (see comments in question 39). Creation and expansion of Conservation Units (see comments in question 187). Progress obtained in the compilation, systematization and availability of data on the Caatinga (see comments in question 190).
- b) No direct contributions were made.
- c) Considering that the conservation and adequate management of the Cerrado and Caatinga encompass all focal areas of the CBD 2010 goals (protect biodiversity components, promote sustainable use and consumption, focus threats to biodiversity, maintain goods and services provided by biodiversity to maintain human well-being, protect traditional knowledge, innovation and practices, ensure the just and equitable sharing of benefits deriving from the use of genetic resources), it may be stated that the mentioned initiatives contribute towards achieving all goals.

- d) The mentioned initiatives indirectly contribute to the implementation of all components of the National Biodiversity Policy, since they are guided by the need to integrate the various elements which are important for the conservation of biodiversity. However, predominance is noticed of the initiatives directed to the sustainable use of the Cerrado. In the Caatinga, the predominant initiatives refer to the knowledge of its biodiversity.
- e) The initiatives contribute towards achieving Objective 7 of the MDGs (ensure environmental sustainability).
- f) The main constraints identified for the Conservation of Dryland and Sub-humid Ecosystems were: 1) great challenges – need for greater political support; low representativeness and integration of biodiversity themes into other sectors; few preventive and proactive measures; need to strengthen institutional capacity; limited technology and experience transfer; loss of traditional knowledge; lack of public education and knowledge at all levels; limited use of existing scientific and traditional knowledge; limited understanding and documentation on the loss of biodiversity and associated benefits; lack of financial, human and technical resources; lack of economic incentive measures; limited benefit-sharing; lack of synergy at the national and international levels; need to improve existing policies and legislation; poverty; population pressure; unsustainable consumption and production standards; lack of capacity-building at local communities; lack of knowledge and practice on ecosystem management initiatives; limited capacity to execute legislation; 2) medium challenges – limited public participation and involvement of interested parties; limited access to knowledge and information; limited horizontal cooperation among involved parties; lack of effective partnerships; limited engagement of the scientific community; natural disasters and environmental change; 3) smaller challenges – difficulties in adapting scientific research capacity to achieve all objectives.

Mountain Biodiversity

Programme Element 1. Direct actions for conservation, sustainable use ad benefit sharing	
193. Has your country taken any measures to prevent and mitigate the negative impacts of key threats to mountain biodiversity?	
a) No	
b) No, but relevant measures are being considered	
c) Yes, some measures taken (please provide details below)	X
d) Yes, many measures taken (please provide details below)	
Further comments on the measures taken to prevent and mitigate the negative impacts of key threats to mountain biodiversity	
The outline presented by the Convention does not reflect the treatment given to the subject in the country. However, several broad initiatives include this ecosystem. Good examples are the Forestry Code, which specifically protects slopes with incline above 45°; and the creation of Conservation Units encompassing this type of environment.	

194. Has your country taken any measures to protect, recover and restore mountain biodiversity?	
a) No	
b) No, but some measures are being considered	
c) Yes, some measures taken (please provide details below)	X
d) Yes, many measures taken (please provide details below)	
Further comments on the measures taken to protect, recover and restore mountain biodiversity	
See comments in question 193.	

195. Has your country taken any measures to promote the sustainable use of mountain biological resources and to maintain genetic diversity in mountain ecosystems?	
a) No	
b) No, but some measures are being considered	X
c) Yes, some measures taken (please provide details below)	
d) Yes, many measures taken (please provide details below)	
Further comments on the measures to promote the sustainable use of mountain biological resources and to maintain genetic diversity in mountain ecosystems	
<p>Leatherleaf Fern Project (see comments in question 76).</p> <p>It is also worth mentioning that various sustainable ecotourism initiatives in Conservation Units specifically relate to mountain ecosystems.</p>	

196. Has your country taken any measures for sharing the benefits arising from the utilization of mountain genetic resources, including preservation and maintenance of traditional knowledge?	
a) No	
b) No, but some measures are being considered	
c) Yes, some measures taken (please provide details below)	X
d) Yes, many measures taken (please provide details below)	
Further comments on the measures for sharing the benefits arising from the utilization of mountain genetic resources	
<p>Provisional Measure n° 2186-016 of 23 August 2001, predicts the use of the instrument: Contract for Using Genetic Heritage and Benefit-Sharing, in order to access genetic resources throughout the Brazilian territory, including mountain ecosystems. There is no differentiated treatment for any given ecosystem.</p>	

**Programme Element 2. Means of implementation for conservation,
sustainable use and benefit sharing**

197. Has your country developed any legal, policy and institutional framework for conservation and sustainable use of mountain biodiversity and for implementing this programme of work?

a) No	
b) No, but relevant frameworks are being developed	
c) Yes, some frameworks are in place (please provide details below)	X
d) Yes, comprehensive frameworks are in place (please provide details below)	

Further comments on the legal, policy and institutional frameworks for conservation and sustainable use of mountain biodiversity and for implementing the programme of work on mountain biodiversity.

See comments in question 193.

198. Has your country been involved in regional and/or transboundary cooperative agreements on mountain ecosystems for conservation and sustainable use of mountain biodiversity?

a) No	
b) No, but some cooperation frameworks are being considered	X
c) Yes (please provide details below)	

Further information on the regional and/or transboundary cooperative agreements on mountain ecosystems for conservation and sustainable use of mountain biodiversity

**Programme Element 3. Supporting actions for conservation,
sustainable use and benefit sharing**

199. Has your country taken any measures for identification, monitoring and assessment of mountain biological diversity?

a) No	
b) No, but relevant programmes are under development	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (please provide details below)	

Further comments on the measures for identification, monitoring and assessment of mountain biodiversity

Program on Forest Diversity, Dynamics and Conservation in São Paulo State: 40 ha of Permanent Plots. The project is coordinated by the Department of Biological Sciences of the ESALQ-USP and is funded by FAPESP. It has been operational since 2001 in areas of Seasonal Forest, Broadleaf Evergreen Forest, Restinga Forest and Cerradão. Within these 10-ha permanent plots, various sub-projects are being developed on forest dynamics and mainly on General Ecology.

Although the theme is not specifically discussed, the **Forestry Code**, instituted by Law n° 4771 of 1934, considers as permanent preservation areas the forests and other natural vegetation types located on:

- the top of hills, mounds, mountains and mountain ranges;
- on slopes or part of slopes, with incline above 45°, equivalent to 100% on the line of greater incline.

200. Has your country taken any measures for improving research, technical and scientific cooperation and capacity building for conservation and sustainable use of mountain biodiversity?

a) No	X
b) No, but relevant programmes are under development	
c) Yes, some measures are in place (please provide details below)	
d) Yes, comprehensive measures are in place (please provide details below)	

Further comments on the measures for improving research, technical and scientific cooperation and capacity building for conservation and sustainable use of mountain biodiversity

201. Has your country taken any measures to develop, promote, validate and transfer appropriate technologies for the conservation of mountain ecosystems?

a) No	X
b) No, but relevant programmes are under development	
c) Yes, some measures are in place (please provide details below)	
d) Yes, comprehensive measures are in place (please provide details below)	

Further comments on the measures to develop, promote, validate and transfer appropriate technologies for the conservation of mountain ecosystems

Box XXXIII.

Please elaborate below on the implementation of this programme of work and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

The Brazilian policy, despite not presenting a focus similar to the mountain ecosystem outline applied by CBD, in various aspects does execute initiatives which directly or indirectly include this ecosystem. One example of this is the creation of Conservation Units.

E. OPERATIONS OF THE CONVENTION

202. Has your country actively participated in subregional and regional activities in order to prepare for Convention meetings and enhance implementation of the Convention? (decision V/20)

a) No	
b) Yes (please provide details below)	X

Further comments on the regional and subregional activities in which your country has been involved.

Work Meeting on Invasive Alien Species: Promoting Cooperation in South America, from 17 to 19 October 2001, in Brasília.

Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among the South American Countries. See comments in question 128.

Latin American and Caribbean Regional Workshop on the Clearing-House Mechanism (CHM). Conducted in Brasília from 9 to 11 March 2005, under the coordination of the Directorate of Biodiversity Conservation of the Ministry of the Environment and the Secretariat of the CBD. The objective of this meeting was to propitiate the interaction of thematic focal points, through capacity-building, to further strengthen the CHM technical and scientific cooperation goal of the Convention (Facilitating Mechanism) concerning the use and access to new information technologies.

International Meeting to discuss the Biodiversity for Food and Nutrition initiative. Conducted in Brasília from 12 to 13 March 2005, under the coordination of the Ministry of the Environment, the Secretariat of the CBD and FAO.

I Brazilian Symposium on Invasive Alien Species. To be conducted from 04 to 07 October 2005, in Brasília.

203. Is your country strengthening regional and subregional cooperation, enhancing integration and promoting synergies with relevant regional and subregional processes? (decision VI/27 B)

a) No	
b) Yes (please provide details below)	X

Further comments on regional and subregional cooperation and processes.

Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among the South American Countries. See comments in question 128.

The **Latin American and Caribbean Ministers Environment Forum** was created under the fundamental influence of the results of the Rio Conference, and of the increasingly pressing needs of the governments in this region to protect the environment and to promote sustainable development. The Forum results from a UNEP effort, in the beginning of the 1980's, to gradually transform the Regional Inter-governmental Meetings on the Environment into a Forum of Ministers of the Environment of the region. The Forum is today one of the most important political instances for the discussion and

coordination of regional stands concerning themes of the international environmental agenda. Along the two decades of its existence, 14 meetings were conducted, and the Forum gradually evolved from a marked thematic dispersion to the organization of a regional agenda which propitiates regional cooperation, capacity increase and the interchange of methodologies and experiences concerning the institutional aspect of environmental management in the countries in this region. The Forum has also improved the participation of Latin American and Caribbean countries in international conferences and other multilateral environmental agreements.

The following question (204) is for DEVELOPED COUNTRIES

204. Is your country supporting the work of existing regional coordination mechanisms and the development of regional and subregional networks or processes? (decision VI/27 B)

a) No	
b) No, but programmes are under development	
c) Yes, included in existing cooperation frameworks (please provide details below)	
d) Yes, some cooperative activities ongoing (please provide details below)	

Further comments on support for the work of existing regional coordination mechanisms and the development of regional and subregional networks or processes.

205. Is your country working with other Parties to strengthen the existing regional and subregional mechanisms and initiatives for capacity-building? (decision VI/27 B)

a) No
b) Yes

Latin-American Botany Network. See comments in question 28.

Environmental Education at the Pontal do Paranapanema. See comments in question 94.

Courses of the Ecological Research Institute [IPÊ – Instituto de Pesquisas Ecológicas]. The Brazilian Conservation Biology Center [CBBC – Centro Brasileiro de Biologia da Conservação] is an interdisciplinary learning center created by IPÊ in 1999, based in its headquarters, in Nazaré Paulista (SP). In addition to Conservation Biology, courses are offered on Conservation Medicine, Wildlife Management, Sustainable Development, Environmental Education, Environmental Legislation, Ecological History, Communication and the Environment, among others. The Center seeks to reach various target audiences which include students, college students, educators, governmental employees, private sector, and non-governmental organizations. The objective is to train multiplying agents to work on conservation and sustainability models, offering specialized training and equal opportunities. Since 1996, the CBBC trained over 730 students. During the last five years, the training of these students has already directly and indirectly reached over 2,300 people. Some courses offered by CBBC have already become a reference in their fields, such as the Latin American Conservation Biology and Wildlife Management Course, Quantitative Biology, Remote Sensing, and Conservation Medicine. Several of these courses were made possible

through agreements with foreign institutions such as the Nature and Society Program – WWF/SUNY, Smithsonian Institution, International Education Institute of Brazil [IIEB – *Instituto Internacional de Educação do Brasil*], Wildlife Preservation Trust, and national institutions such as the Nazaré Experiences Center [*Centro de Vivências Nazaré*]. Respected Brazilian and foreign professionals, with vast experience, also collaborate to ensure the quality of the courses offered by CBBC. The CBBC also possesses a Scholarship Fund, to offer scholarships to students with insufficient funds to cover the courses' costs. The Fund is maintained by donations from students, former students, and teaching staff of the Center. Additional information is available at <http://www.ipe.org.br> .

Biological Dynamics of Forest Fragments Program. See comments in question 185.

German Technical Cooperation (*Deutsche Gesellschaft für Technische Zusammenarbeit* GTZ).

The Technical Cooperation has the objective of working with institutions and people to expand its action capacity in the context of the development goals agreed between the Brazilian and German governments. The Cooperation is conducted through jointly established programs, within an Inter-governmental Operating Agreement (Complementary Adjustment to the Brazil-Germany Basic Technical Cooperation Agreement), which defines the participation of each party. The GTZ is a public capital private company created in 1974 with the objective of managing the technical cooperation projects, and is responsible for the implementation of the German contribution. The GTZ is responsible for the following contributions:

- Provide long- or short-term staff according to the project needs;
- Train Brazilian professionals in Brazil or abroad;
- Provide the necessary equipment and materials for project implementation;
- Exceptionally, provide grants for pilot experiences for creating new financial instruments.

Additional information at <http://www.gtz.org.br>.

206. Has your country contributed to the assessment of the regional and subregional mechanisms for implementation of the Convention? (decision VI/27 B)

a) No	
b) Yes (please provide details below)	X

Further comments on contribution to the assessment of the regional and subregional mechanisms.

Latin American Botany Network. See comments in question 28.

Program for Cooperative Research and Technology Transfer for the South American Tropics (PROCIOTROPICOS). See comments in questions 10 and 128.

Box XXXIV.

Please elaborate below on the implementation of the above decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;

f) constraints encountered in implementation.

- a) Brazil conducted some regional meetings in the context of the Convention on Biological Diversity:
- Meeting for Identification of Themes on Biodiversity for Cooperation and Interchange among the South American Countries;
 - Latin America and Caribbean Regional Workshop on the Clearing-House Mechanism (CHM);
 - International Meeting to discuss the Biodiversity for Food and Nutrition Initiative.
- b) The mentioned initiatives contribute towards achieving objectives 1.6 and 2.5 of the Strategic Plan of the Convention.
- c) No direct contributions were made.
- d) The mentioned initiatives contribute to the achievement of the following specific objectives of the National Biodiversity Policy:
- 16.3.2. Support the interchange of knowledge and technologies on selected themes and in areas defined as a priority for biodiversity management, including exchange with international and foreign reference centers.
 - 16.5.2. Promote the implementation of international agreements and conventions related to biodiversity management, with special attention to the Convention on Biological Diversity and its programs and initiatives;
 - 16.5.3. Establish synergies aiming at the implementation of the environmental conventions signed by the country.
- e) No direct contributions were made.
- f)

F. COMMENTS ON THE FORMAT

Box XXXV.

Please provide below recommendations on how to improve this reporting format.

- - - - -

ANNEX I

NATIONAL BIODIVERSITY COMMISSION - CONABIO

[COMISSÃO NACIONAL DA BIODIVERSIDADE]

HISTORY

The objective of the Convention on Biological Diversity – CBD is the conservation and sustainable use of biodiversity, and the just and equitable sharing of benefits deriving from its use and the use of associated traditional knowledge. In 1994, the Brazilian Government created the National Biological Diversity Program – PRONABIO [*Programa Nacional da Diversidade Biológica*] through Decree nº 1354 of 29 December 1994, to coordinate the implementation of the obligations underwritten by Brazil under the CBD. A commission to coordinate the Program was also established, with the purpose of coordinating, supervising and evaluating its actions.

Decree nº 4339, of 22 August 2002, determined that the Ministry of the Environment – MMA [*Ministério do Meio Ambiente*], through PRONABIO, must coordinate the implementation of the principles and directives of the National Biodiversity Policy, by promoting partnerships between Government and civil society for the knowledge and conservation of biodiversity, the sustainable use of its components, and the just and equitable sharing of deriving benefits.

Considering this, Decree nº 4703 of 21 May 2003 altered PRONABIO, ensuring the compliance of the Program to the principles and directives of the National Biodiversity Policy. In addition, it revoked Decree nº 1354/1994 and established the National Biodiversity Commission – CONABIO [*Comissão Nacional da Biodiversidade*].

CONABIO is composed by delegates from governmental agencies and civil organizations, and has a relevant role in the discussion and implementation of the biodiversity policies. The Commission has the responsibility of promoting the implementation of the obligations underwritten by Brazil under the CBD, as well as identifying and proposing priority areas and actions for the research, conservation and sustainable use of biodiversity components.

RESPONSIBILITIES

CONABIO' s responsibilities are described in Article 6 of Decree nº 4703, of 21 May 2003. CONABIO has the following responsibilities, regarding the National Biodiversity Policy – PNB [*Política Nacional da Biodiversidade*]:

- To coordinate its elaboration based on the directives included in Decree nº 4339, of 2002;
- To propose measures for its implementation to the Government, stimulating decentralization of action execution and ensuring the participation of interested parties;
- To provide technical support to public and private agents responsible for its execution within the national territory, so that its principles, directives and objectives may be met;
- To promote coordination among programs, projects and activities related to the implementation of its principles and directives, and to promote the integration of relevant sectoral policies;
- To identify needs and to propose the creation or modification of instruments necessary to the satisfactory execution of the principles and directives for its implementation;
- To stimulate inter-institutional and international cooperation for the implementation of its principles and directives;
- To promote debates and public consultations on themes related to the elaboration of proposals referring to the PNB;
- To create and coordinate technical chambers composed by members and guests, with the purpose of promoting discussion and coordination of themes relevant to the implementation of PNB principles and directives;

- To monitor and evaluate the execution of the thematic components for the implementation of PNB principles and directives and to direct the elaboration of national reports on biodiversity;
- To monitor the execution of actions planned to comply with the principles and directives for PNB implementation;
- To propose general PRONABIO directives to support the execution of actions planned for the implementation of PNB principles and directives, and to identify funding needs and sources;

CONABIO is also responsible for:

- Identifying, proposing and stimulating actions involving the capacity-building of human resources, the strengthening of institutions and public sensitization;
- Establishing general criteria for accepting and selecting projects and to select projects under programs related to biodiversity protection whenever specially designated to do so;
- Identifying and proposing priority actions for: research; conservation; sustainable use; impact monitoring, evaluation, prevention and reduction; and sharing of benefits deriving from biodiversity use.



**Presidency of the Republic
Office of the Chief Staff
Sub-department for Legal Affairs**

DECREE N° 4703, of 21 MAY 2003.

Rules on the National Biological Diversity Program - PRONABIO and on the National Biodiversity Commission, and rules on other subjects.

The PRESIDENT OF THE REPUBLIC, using his legal attributions provided by Article 84, sections IV and VI, item " a" of the Constitution, and according to what is enacted by Decree n° 2519 of 16 March 1998,

DECREES THAT:

Art. 1 – The National Biological Diversity Program – PRONABIO and the PRONABIO Coordinating Commission, from now on designated as National Biodiversity Commission, both instituted by Decree n° 1354, of 29 December 1994, will from now on be ruled by this Decree.

Art. 2 – PRONABIO has the following objectives:

I – to guide the elaboration and implementation of the National Biodiversity Policy, based on the principles and directives instituted by Decree n° 4339, of 22 August 2002, through promoting partnership with the civil society for the knowledge and conservation of biological diversity, the sustainable use of its components, and the just and equitable distribution of benefits deriving from its use, according to the principles and directives of the Convention on Biological Diversity, of the Brazilian Agenda 21, and of the National Environmental Policy;

II – to promote the implementation of the obligations underwritten by Brazil under the Convention on Biological Diversity, and to guide the elaboration and presentation of national reports to this Convention;

III – to coordinate the actions to implement the principles and directives of the National Biodiversity Policy within the National Environmental System – SISNAMA, and by agencies and entities of the Federal Government, States, Federal District, Municipalities and civil society;

IV – to elaborate and establish programs and projects to support the execution of actions provided by Decree n° 4.339, of 2002;

V – to stimulate inter-institutional and international cooperation, including by means of the intermediating mechanism of the Convention on Biological Diversity, to improve the implementation of biodiversity management actions;

VI – to promote the elaboration of proposals for the creation or modification of instruments necessary for the satisfactory execution of the actions provided by Decree n° 4339, of 2002, in coordination with the Ministries in charge of the addressed themes;

VII – to promote the integration of sectoral policies to increase synergy in the implementation of actions directed at the sustainable management of biodiversity;

VIII – to promote actions, projects, research and studies with the purpose of producing and disseminating information and knowledge on biodiversity;

IX – to stimulate the capacity-building of human resources, the institutional strengthening and the public sensitization for the conservation and sustainable use of biodiversity;

X – to guide the monitoring and evaluation of the execution of the thematic components to comply with the principles and directives for the implementation of the National Biodiversity Policy; and

XI – to guide the monitoring of the execution of the actions planned for the implementation of the principles and directives of the National Biodiversity Policy, also by defining the adequate indicators.

Art. 3 – PRONABIO must be implemented through actions of national scope or directed at groups of biomes, with a structure comprising the following:

I – thematic components:

- a) biodiversity knowledge;
- b) biodiversity conservation;
- c) sustainable use of biodiversity components;
- d) monitoring, evaluation, prevention and reduction of impacts on biodiversity;
- e) access to genetic resources and to associated traditional knowledge and benefit-sharing;
- f) education, public sensitization, information and dissemination related to biodiversity;
- g) legal and institutional strengthening for biodiversity management;

II – group of biomes:

- a) Amazon;
- b) Cerrado and Pantanal;
- c) Caatinga;
- d) Atlantic Forest and Uruguayan Savannas;
- e) Coastal and Marine Zone.

Art. 4 – It is the responsibility of the Ministry of the Environment to supervise PRONABIO implementation.

Art. 5 – PRONABIO will be funded by resources of the National Treasure and by funds raised both nationally and abroad, from governmental, private and multilateral agencies.

Art. 6 – The National Biodiversity Commission has the purpose of coordinating, monitoring and evaluating the PRONABIO actions, being especially responsible for:

I – coordinating the elaboration of the National Biodiversity Policy, based on the principles and directives defined by Decree n° 4339, of 2002;

II – promoting the implementation of the obligations underwritten by Brazil under the Convention on Biological Diversity;

III – approving the methodology for the elaboration of the final text of the national reports to the Convention on Biological Diversity;

IV – proposing measures for the fulfillment, by the Federal Government, of the principles and directives for the implementation of the National Biodiversity Policy, instituted by Decree n° 4339, of 2002, stimulating the decentralization of action execution and ensuring the participation of interested parties;

V – providing technical assistance to public and private agents responsible for the execution of the National Biodiversity Policy within the national territory, so that its principles, directives and objectives may be met;

VI – promoting coordination among programs, projects and activities related to the implementation of the principles and directives of the National Biodiversity Policy, and promoting the integration of relevant sectoral policies;

VII – proposing PRONABIO general directives to support the execution of actions planned for the implementation of the principles and directives of the National Biodiversity Policy, and identifying funding needs and sources;

VIII – identifying needs and proposing the creation or modification of instruments necessary for the satisfactory execution of the principles and directives of the National Biodiversity Policy;

IX – stimulating inter-institutional and international cooperation for the implementation of the principles and directives of the National Biodiversity Policy and of the Convention on Biological Diversity in the country;

X – identifying and proposing priority areas and actions for:

- a) research on biological diversity;
- b) the conservation of biological diversity;
- c) the sustainable use of biodiversity components;
- d) impact monitoring, evaluation, prevention and reduction; and
- e) sharing benefits deriving from the use of biodiversity;

XI – identifying, proposing and stimulating actions for the capacity-building of human resources, institutional strengthening and public sensitization;

XII – establishing general criteria for accepting and selecting projects, and selecting projects under programs related to biodiversity protection, whenever especially designated to do so;

XIII – promoting debates and public consultations on themes related to the elaboration of proposals related to the National Biodiversity Policy;

XIV – creating and coordinating technical chambers composed by members and guests, with the purpose of promoting discussion and coordination on themes relevant to the implementation of the principles and directives of the National Biodiversity Policy;

XV – monitoring and evaluating the execution of the thematic components for the implementation of the principles and directives of the National Biodiversity Policy and directing the elaboration of national reports on biodiversity;

XVI – monitoring the execution of the actions planned for complying with the principles and directives for the implementation of the National Biodiversity Policy; and

XVII – presenting proposals of internal regulations to the Minister of the Environment.

Art. 7 – The National Biodiversity Commission will be presided by the Secretary of Biodiversity and Forests of the Ministry of the Environment and, in his/her absence or legal or regulatory impediment, by the Director of Biodiversity Conservation, and will be composed, in addition to its President, by one delegate from each of the following agencies and civil society organizations:

I – Ministry of the Environment;

II – Ministry of Science and Technology;

III – Ministry of Agriculture, Livestock and Supply;

IV – Ministry of Health;

V – Ministry of Foreign Affairs;

VI – Ministry of Planning, Budget and Administration;

VII – Ministry of Agrarian Development;

VIII – Ministry of National Integration;

IX – Brazilian Association of the State Environmental Agencies – ABEMA [*Associação Brasileira das Entidades Estaduais de Meio Ambiente*];

X – academic community, indicated by the Brazilian Society for the Progress of Science – SBPC [*Sociedade Brasileira para o Progresso da Ciência*];

XI – academic community, indicated by the Brazilian Science Academy – ABC [*Academia Brasileira de Ciências*];

XII – environmental non-governmental organizations, indicated by the Forum of NGOs and Social Movements for the Environment and for Development;

XIII – social movements, indicated by the Forum of NGOs and Social Movements for the Environment and for Development;

XIV – indigenous communities, indicated by the Coordination of Indigenous Organizations of the Amazon – COIAB [*Coordenação das Organizações Indígenas da Amazônia*];

XV – business sectors connected to agriculture, indicated by the National Agriculture Confederation – CNA [*Confederação Nacional da Agricultura*]; and

XVI – business sectors connected to industry, indicated by the National Industry Confederation – CNI [*Confederação Nacional da Indústria*].

§ 1 – The delegates of the Government, as well as their substitutes, will be indicated by the Minister of the respective Portfolio and designated by the Minister of the Environment.

§ 2 – The delegates of the non-governmental entities listed in items IX through XVI and their substitutes will be indicated by their respective organizations and designated by the Minister of the Environment, with a two-year tenure, renewable for a second two-year period.

Art. 8 – When invited by the President of the National Biodiversity Commission, delegates of other governmental agencies and entities may also participate of its meetings, as well as citizens and delegates from companies who, due to their personal or institutional experience, may contribute to the debate.

Art. 9 – The National Biodiversity Commission will deliberate according to simple majority, with a minimum quorum of half plus one, and its President will only vote in case of tie, when he/she will have a quality vote.

Art. 10. The Ministry of the Environment will provide the technical-administrative supporting services to the National Biodiversity Commission.

Art. 11. The participation in the National Biodiversity Commission is considered of relevant public interest, and does not imply any type of remuneration.

Art. 12. Decree nº 1354, of 29 December 1994 is hereby revoked.

Brasília, 21 May 2003; 182nd day of Independence and 115th of the Republic.

LUIZ INÁCIO LULA DA SILVA

Celso Luiz Nunes Amorim

Roberto Rodrigues

Guido Mantega

Roberto Átila Amaral Vieira

Marina Silva

Ciro Ferreira Gomes

Miguel Soldatelli Rosseto

This text does not substitute the text published in the D.O.U. (Official Federal Gazette) of 22 May 2003.

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ANNEX II

Consultation Form for the Third National Report to the CBD

MINISTRY OF THE ENVIRONMENT
SECRETARIAT OF BIODIVERSITY AND FORESTS
DIRECTORATE OF BIODIVERSITY CONSERVATION
NATIONAL BIOLOGICAL DIVERSITY STRATEGY AND
NATIONAL REPORT PROJECT – BRA 97 G 31

Survey for the elaboration of the Third National Report to the Convention on Biological Diversity

Title of the initiative:	
Biome:	
Summary of Activities:	
Funding Source:	
Amount:	
Date started:	Conclusion date:
Executing agency:	
Main results:	
Difficulties encountered:	
CBD Article:	
Internet Address:	

ANNEX III

Institutions consulted for the elaboration of the Third National Report to the Convention on Biological Diversity - CBD

CIVIL ORGANIZATIONS	PROVIDED CONTRIBUTIONS
Ação Nascente Maquiné	X
Aracruz Celulose S.A.	X
Assessoria e Serviços a Projetos em Agricultura Alternativa (ASP-TA)	
Associação de Defesa do Meio Ambiente do Avaré (ADEMA)	
Associação Mico-Leão Dourado	
Associação Nacional de Municípios e Meio Ambiente (ANAMMA)	X
Associação Plantas do Nordeste (APNE)	X
Associação Plantio Direto	
Associação Potiguar Amigos da Natureza (ASPOAN)	
BrasilConnects	
Companhia Vale do Rio Doce (CVRD)	X
Conselho Empresarial Brasileiro para o Desenvolvimento Sustentável (CEBDS)	
Conselho Nacional da Indústria (CNI)	
Conselho Nacional de Defesa Ambiental (CNDA)	
Conservation International (CI)	
Coordenação das Organizações Indígenas da Amazônia Brasileira (COIAB)	
Fórum Brasileiro de ONGs	
Fundação Biodiversitas	
Fundação Brasileira para o Desenvolvimento Sustentável (FBDS)	
Fundação Gaia	
Fundação Grupo Esquel Brasil	
Fundação Museu do Homem Americano (FUNDHAM)	
Fundação o Boticário de Proteção à Natureza	X
Fundação Onda Azul	

CIVIL ORGANIZATIONS	PROVIDED CONTRIBUTIONS
Fundação Pró- Natureza (FUNATURA)	X
Fundação Pró-TAMAR	
Fundação Rio Parnaíba (FURPA)	
Fundação Terra Mirim	X
Fundação Vitória Amazônica (FVA)	
Fundo Brasileiro Para Biodiversidade (FUNBIO)	X
Fundo Mundial para a Natureza (WWF)	
Greenpeace	
Grupo Ambiental da Bahia (GAMBÁ)	X
Grupo de Trabalho Amazônico (GTA)	
Instituto Acqua – Ação, Cidadania, Qualidade Urbana e Ambiental	X
Instituto de Ecologia Tropical (ECOTROPIC)	
Instituto de Ecoturismo do Brasil (IEB)	
Instituto de Estudos Ambientais Mater Natura	X
Instituto de Estudos da Religião (ISER)	
Instituto de Estudos Sócio-Ambientais do Sul da Bahia (IESB)	X
Instituto de Manejo e Certificação Florestal Agrícola (IMAFLOA)	
Instituto de Pesquisa Ambiental da Amazônia (IPAM)	
Instituto do Homem e Meio Ambiente da Amazônia (IMAZON)	
Instituto Ecoar	
Instituto ECOFORÇA – Pesquisa e Desenvolvimento	
Instituto Ecoplan	X
Instituto Sociedade, População e Natureza (ISPN)	X
Instituto Socioambiental (ISA)	
Instituto Terra	
Instituto Terra Azul	
Instituto Vitae Civilis	X

CIVIL ORGANIZATIONS	PROVIDED CONTRIBUTIONS
Movimento de Ecologia Social "Os Verdes"	
Núcleo Amigos da Terra	X
Rede Cerrado	X
Rede de Desenvolvimento Humano (REDEH)	
Rede de Jardins Botânicos	
Rede Mata Atlântica	
Rede Nacional de Combate ao Tráfico de Animais Silvestres (RENCTAS)	
Rede Pró-Unidade de Conservação	X
Reserva da Biosfera da Mata Atlântica	
Reserva Particular do Patrimônio Natural (RPPN)	
Sociedade de Pesquisa em Vida Selvagem e Educação Ambiental (SPVS)	
Sociedade de Zoológicos do Brasil (SZB)	
Sociedade Nordestina de Ecologia (SNE)	
SODERMA	
SOS Amazônia	X
SOS Mata Atlântica	
The Nature Conservancy (TNC)	X

PROGRAMS OF THE FEDERAL GOVERNMENT PLURI-ANNUAL PLAN - PPA		
PROGRAM	LEADING INSTITUTION	PROVIDED CONTRIBUTIONS
Abastecimento Agroalimentar	MAPA	
Agenda 21	MMA	X
PRONAF	MDA	X
Amazônia Sustentável	MMA	
Aqüicultura e Pesca do Brasil	SEAP	X
Áreas Protegidas do Brasil	MMA	X
Assentamentos Sustentáveis para Trabalhadores Rurais	MDA	

PROGRAMS OF THE FEDERAL GOVERNMENT PLURI-ANNUAL PLAN - PPA		
PROGRAM	LEADING INSTITUTION	PROVIDED CONTRIBUTIONS
Assistência e Cooperação do Exército à Sociedade Civil	MD	
Avaliação do Plano Plurianual	MPOG	X
Biotecnologia	MCT e MMA	X
Brasil Destino Turístico Internacional	MTur	
Calha Norte	MD	
Ciência, Natureza e Sociedade	MCT	X
Combate à Desertificação	MMA	X
Comunicações, Comando, Controle e Inteligência nas Forças Armadas	MD	
Comunidades Tradicionais	MMA	X
Conservação e Recuperação dos Biomas Brasileiros	MMA	
Conservação e Uso Sustentável de Recursos Genéticos	MMA	X
Cooperação Científica, Técnica e Tecnológica Internacional	MRE	
Democratização do Acesso à Informação Jornalística, Educacional e Cultural	Presidência da República	
Desenvolvimento das Culturas de Cereais, Raízes e Outras Espécies Vegetais	MAPA	
Desenvolvimento das Culturas de Oleaginosas e Plantas Fibrosas	MAPA	X
Desenvolvimento Sustentável de Territórios Rurais	MDA	
Desenvolvimento Sustentável do Pantanal	MMA	X
Desenvolvimento Sustentável na Reforma Agrária	MDA	
Educação Ambiental para Sociedades Sustentáveis	MMA	X
Energia Alternativa Renovável	MME	
Formação e Capacitação de Recursos Humanos para Pesquisa	MCT	X
Gestão da Política Nacional de Recursos Hídricos	MMA	X
Gestão dos Orçamentos da União	MPOG	
Identidade Étnica e Patrimônio Cultural dos Povos Indígenas	MJ	
Informações Integradas para Proteção da Amazônia	Presidência da República	

PROGRAMS OF THE FEDERAL GOVERNMENT PLURI-ANNUAL PLAN - PPA		
PROGRAM	LEADING INSTITUTION	PROVIDED CONTRIBUTIONS
Integração de Bacias Hidrográficas	MI	
Manejo e Conservação de Solos na Agricultura	MAPA	
Mudanças Climáticas e Meio Ambiente	MMA	X
Mudanças Climáticas Globais	MCT	X
Prevenção de Riscos e Combate às Emergências Ambientais	MMA	X
Prevenção e Combate ao Desmatamento, Queimadas e Incêndios Florestais	MMA	X
Proambiente	MMA	X
Proantar	MD	
Probacias	ANA	X
Programa Nacional de Ecoturismo	MMA	X
Programa Nacional de Florestas	MMA	X
Promoção da Pesquisa e do Desenvolvimento Científico e Tecnológico	MCT	X
Promoção da Sustentabilidade de Espaços Sub-Regionais	MI	
Promoção e Inserção Econômica de Sub-regiões	MI	
Proteção de Terras Indígenas, Gestão Territorial e Etnodesenvolvimento	MJ	
Recursos do Mar	MD	
Recursos para o Desenvolvimento	MPOG	
Recursos Pesqueiros Sustentáveis	MMA	X
Relações e Negociações do Brasil no Âmbito dos Organismos Internacionais	MRE	
Revitalização de Bacias Hidrográficas em Situação de Vulnerabilidade e Degradação Ambiental	MMA	X
Segurança Fitozoossanitária no Trânsito de Produtos Agropecuários	MAPA	
Sociedade da Informação	MCT	X
Transporte Marítimo de Petróleo e Derivados	MRE	
Universidade do Século XXI	ME	
Viver sem Contaminação	MMA	X

STATE ENVIRONMENTAL AGENCIES– OEMAS [ÓRGÃOS ESTADUAIS DE MEIO AMBIENTE]		
AGENCY	STATE	PROVIDED CONTRIBUTIONS
Instituto de Meio Ambiente do Acre	AC	
Instituto do Meio Ambiente	AL	
Instituto de Proteção Ambiental do Amazonas	AM	
Secretaria de Estado do Meio Ambiente	AP	X
Secretaria do Planejamento, Ciência e Tecnologia	BA	
Secretaria da Ouvidoria Geral e Meio Ambiente	CE	
Secretaria de Meio Ambiente e Recursos Hídricos	DF	X
Secretaria de Estado Para Assuntos de Meio Ambiente	ES	X
Secretaria de Meio Ambiente e dos Recursos Hídricos	GO	X
Gerência de Estado de Meio Ambiente e Recursos Naturais	MA	
Secretaria de Estado de Meio Ambiente e Desenvolvimento Sustentável	MG	X
Secretaria de Estado de Meio Ambiente	MS	X
Fundação Estadual do Meio Ambiente	MT	X
Secretaria Executiva de Ciência , Tecnologia e Meio Ambiente	PA	
Secretaria Extraordinária do Meio Ambiente, Recursos Hídricos	PB	
Secretaria de Ciência, Tecnologia e Meio Ambiente	PE	X
Secretaria do Meio Ambiente e Recursos Hídricos	PI	X
Secretaria de Estado de Meio Ambiente e Recursos Hídricos	PR	
Secretaria de Meio Ambiente	RJ	
Instituto de Desenvolvimento Econômico e Meio Ambiente	RN	X
Secretaria de Estado do Desenvolvimento Ambiental	RO	
Fundação Estadual do Meio Ambiente, Ciência e Tecnologia de Roraima	RR	
Secretaria Estadual do Meio Ambiente	RS	X
Secretaria de Estado do Desenvolvimento Urbano e Meio Ambiente	SC	
Administração Estadual do Meio Ambiente	SE	
Secretaria de Estado de Meio Ambiente	SP	X
Secretaria do Planejamento e Meio Ambiente	TO	X

OTHER CONSULTATIONS	
INSTITUTION	PROVIDED CONTRIBUTIONS
Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq)	X
Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA)	X
Fundação Cultural Palmares	
Fundação Oswaldo Cruz	X
IBAMA/Centro Nacional de Populações Tradicionais (CNPT)	X
IBAMA/Diretoria de Ecossistemas (DIREC)	X
IBAMA/Diretoria de Fauna e Recursos Pesqueiros (DIFAP)	X
IBAMA/Diretoria de Licenciamento e Qualidade Ambiental (DILIQ)	
IBAMA/Diretoria de Proteção Ambiental (DIPRO)	
IBAMA/Diretoria de Gestão Estratégica (DIGET)	
IBAMA/Diretoria de Florestas (DIFLOR)	
IBAMA/Projeto TAMAR	X
IBAMA/Gerências Executivas – (27 consulted)	X (1 contribution)
Jardim Botânico do Rio de Janeiro	X
Museu Paraense Emílio Goeldi	

ANNEX IV

**List of Participants of the Validation Meetings for the
Third National Report to the CBD
Brasília, 11 and 12, 18 and 19 April 2005.**

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