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SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE
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Agenda item 8 (a)

**NATIONAL COMMUNICATIONS FROM PARTIES INCLUDED IN
ANNEX I TO THE CONVENTION**

**GUIDELINES FOR THE PREPARATION OF
NATIONAL COMMUNICATIONS**

Draft conclusions by the Chairman

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA) agreed to forward to the Subsidiary Body for Implementation (SBI) a draft decision on guidelines for the preparation of national communications by Parties included in Annex I to the Convention, part II: UNFCCC reporting guidelines on national communications, to be recommended for adoption by the Conference of the Parties at its fifth session (see annex to these conclusions and the guidelines attached thereto).
2. The SBSTA noted the need to improve the quality of national greenhouse gas inventories in Annex I Parties with economies in transition, and of the reporting of inventory data using the UNFCCC reporting guidelines on annual inventories. In this regard, it welcomed the offer of support by the Government of Switzerland for a workshop on this topic to be held in Geneva from 30 November to 2 December 1999 in cooperation with the United Nations Institute for Training and Research.
3. The SBSTA requested the secretariat to prepare a report on this workshop, including information on the special needs of the Annex I Parties with economies in transition, for consideration by the SBSTA at its twelfth session.

[For the text of the draft decision mentioned in paragraph 1 above, see the annex below and the guidelines attached thereto]

Annex

Decision /CP.5

Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications

The Conference of the Parties,

Recalling the relevant provisions of the United Nations Framework Convention on Climate Change, in particular Articles 4, 6, 7.2, 9.2(b), 10.2, and 12 thereof,

Recalling its decisions 9/CP.2 and 11/CP.4 on national communications from Parties included in Annex I to the Convention (Annex I Parties),

Having considered the relevant recommendations of the Subsidiary Body for Scientific and Technological Advice and of the Subsidiary Body for Implementation,

Noting that the revised guidelines for the preparation of national communications by Parties included in Annex I to the Convention annexed to decision 9/CP.2 need to be updated to improve the transparency, consistency, comparability, completeness and accuracy of the information reported,

1. *Adopts* the guidelines for the preparation of national communications by Parties included in Annex I to the Convention, part II: UNFCCC reporting guidelines on national communications, contained in document FCCC/CP/1999/L./Add.1;
2. *Decides* that Annex I Parties should use part II of the UNFCCC reporting guidelines for the preparation of their third national communications due by 30 November 2001, in accordance with decision 11/CP.4;
3. *Requests* Annex I Parties to provide a detailed report on their activities in relation to systematic observation, in accordance with the UNFCCC reporting guidelines on global climate observing systems adopted by decision /CP.5,¹ in conjunction with their national communications;
4. *Urges* those Annex I Parties that have not submitted their first or second national communication, including those that were included in Annex I by decision 4/CP.3, to do so as soon as possible;
5. *Urges* Parties included in Annex II to the Convention to assist Annex I Parties with economies in transition, through appropriate bilateral or multilateral channels, with technical aspects in the preparation of national communications.

¹ Draft decision to be recommended to COP 5 on UNFCCC reporting guidelines on global climate observing systems (FCCC/SBSTA/1999/CRP.3).

GUIDELINES FOR THE PREPARATION OF NATIONAL COMMUNICATIONS BY PARTIES INCLUDED IN ANNEX I TO THE CONVENTION

PART II

UNFCCC reporting guidelines on national communications

I. INTRODUCTION

A. Objectives

1. The objectives of these guidelines for preparing the national communication are:

(a) To assist Annex I Parties in meeting their commitments under Articles 4 and 12 of the Convention;

(b) To promote the provision of consistent, transparent, comparable, accurate and complete information in order to enable a thorough review and assessment of the implementation of the Convention by the Parties, and to monitor the progress Annex I Parties are making towards meeting the goals of the Convention; and

(c) To assist the Conference of the Parties (COP) to carry out its responsibilities to review the implementation of the Convention pursuant to Article 7.2(a) and the adequacy of the commitments in Article 4.2(a) and (b) in accordance with Article 4.2(d).

B. Structure

2. The information identified in these guidelines shall be communicated by a Party in a single document, 500 copies of which should be submitted to the Conference of the Parties through the secretariat, and shall be in one of the official languages of the United Nations. Parties may include a reference to a national focal point and/or web site where additional copies may be obtained. The length of a national communication may be decided by the submitting Party but every effort shall be made to avoid over-lengthy national communications, in order to reduce the paper burden and to facilitate the consideration process. Parties shall also provide an electronic version of their national communication to the secretariat.

3. Annex I Parties should also submit to the secretariat, where relevant, a translation of their national communication into English.

4. Parties should provide references to additional relevant background information in an annex to the national communication. Parties should also provide this information and other relevant background information to the secretariat on its request, preferably in English, or another official language of the United Nations.

5. To facilitate transparency, comparability and consistency of national communications, Parties shall structure their national communication following the outline contained in the annex to these guidelines. To ensure completeness, no mandatory element shall be excluded. If mandatory elements cannot be reported for any reason, Parties shall explain the omission or the reason for partial reporting in the section relating to that element.

6. Where statistical data are provided they should be accompanied by a definition of terms, unless they are obvious.

II. EXECUTIVE SUMMARY

7. A national communication shall include an executive summary that summarizes the information and data from the full document. The executive summary shall be of no more than 15 pages.

III. NATIONAL CIRCUMSTANCES RELEVANT TO GREENHOUSE GAS EMISSIONS AND REMOVALS

8. Parties shall provide a description of their national circumstances, how national circumstances affect greenhouse gas (GHG) emissions and removals, and how national circumstances and changes in national circumstances affect greenhouse gas emissions and removals over time. Parties should provide information about how their national circumstances are relevant to factors affecting greenhouse gas emissions and removals, including disaggregated indicators, to explain the relationship between national circumstances and emissions or removals. Parties may provide whatever information best describes their own national circumstances and historic trends. However, to improve comparability of national communications, the following headings are recommended:

(a) Government structure: for example, roles and responsibilities of different levels of government;

(b) Population profile: for example, total population, density and distribution;

(c) Geographic profile: for example, area, latitude, land-use and ecosystems;

(d) Climate profile: for example, temperature distribution, annual temperature variations, precipitation distribution, climate variability and extreme events;

(e) Economic profile: for example, gross domestic product (GDP), GDP per capita (expressed in domestic currency and purchasing parities), GDP by sector, international trade patterns;

(f) Energy (by fuel types where appropriate): for example, energy resource base, production, consumption, market structure, prices, taxes, subsidies, trade;

(g) Transportation: for example, modes (passenger and freight), travel distances, fleet characteristics;

- (h) Industry: for example, structure;
- (i) Waste: for example, waste sources, management practices;
- (j) Building stock and urban structure: for example, profile of residential and commercial buildings;
- (k) Agriculture: for example, structure, management practices;
- (l) Forest: for example, types, management practices;
- (m) Other circumstances.

Flexibility in accordance with Article 4.6 and 4.10

9. Parties requesting flexibility or consideration, in accordance with Article 4.6 and 4.10 of the Convention, shall state the type of special consideration they are seeking and provide a full explanation of their circumstances.

IV. GREENHOUSE GAS INVENTORY INFORMATION

A. Summary tables

10. Summary information from the national greenhouse gas inventory prepared according to part I of these guidelines shall be provided for the period from 1990 (or other base year) to the last but one year prior to the year of submission of the national communication (e.g. inventory information up to the year 1999 shall be provided in the third national communication to be submitted by 30 November 2001). The information provided in the national communication should be consistent with that provided in the annual inventory information submission of the year in which the national communication is submitted, and any differences should be fully explained.

11. For the purpose of the national communication, complete inventory information need not be provided. However, at a minimum, Parties shall report the summary, including carbon dioxide (CO₂) equivalent and emissions trend tables given in the common reporting format contained in the above-mentioned guidelines. These tables may be provided as an annex, as part of the national communication rather than in the main text.

B. Descriptive summary

12. In the main text of the national communication, Parties should provide a descriptive summary and should provide diagrams for the GHGs reported in the summary tables, in accordance with paragraph 11 above. Parties should provide a description of the factors underlying emission trends.

V. POLICIES AND MEASURES

A. Selection of policies and measures for the national communication

13. In accordance with Article 12.2, Annex I Parties shall communicate information on policies and measures adopted to implement commitments under Article 4.2(a) and (b). These need not have the limitation and reduction of GHG emissions and removals as a primary objective.

14. In reporting, Parties should give priority to policies and measures, or combinations of policies and measures, which have the most significant impact in affecting GHG emissions and removals and may also indicate those which are innovative and/or effectively replicable by other Parties. Parties may report on adopted policies and measures and those in the planning stage, but should clearly distinguish these from implemented policies and measures throughout². The national communication does not have to report every policy and measure which affects GHG emissions.

15. Policies and measures reported on should be those planned, adopted and/or implemented by governments at national, state, provincial, regional and local level. Furthermore, policies and measures reported may also include those adopted in the context of regional or international efforts. Policies and measures influencing international transport GHG emissions should be reported in the transport sector.

16. Parties should report on action taken to implement commitments under Article 4.2(e) (ii) of the Convention, which requires that Parties identify and periodically update their own policies and practices which encourage activities that lead to greater levels of anthropogenic GHG emissions than would otherwise occur. Parties should also provide the rationale for such actions in the context of their national communications.

B. Structure of the policies and measures section of the national communication

17. Parties shall organize the reporting of policies and measures by sectors, subdivided by greenhouse gas (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride). To the extent appropriate, the following sectors should be considered: energy, transport, industry, agriculture, forestry and waste management. Each sector shall have its own textual description of the principal policies and measures, as set out in section D below, supplemented by table 1. Parties may include separate text and a table describing cross-sectoral policies and measures.

² *Implemented policies and measures* are those for which one or more of the following applies: (a) national legislation is in force; (b) one or more voluntary agreements have been established; (c) financial resources have been allocated; (d) human resources have been mobilized. *Adopted policies and measures* are those for which an official government decision has been made and there is a clear commitment to proceed with implementation. *Planned policies and measures* are options under discussion and having a realistic chance of being adopted and implemented in future.

18. In cases where a policy or measure has been maintained over time and is thoroughly described in the Party's previous national communication, reference should be made to this and only a brief description contained in the latest national communication, focusing on any alterations to the policy or measure or effects achieved.

19. Some information such as the effect of policies and measures may be presented in aggregate for several complementary measures in a particular sector or affecting a particular gas.

C. Policy-making process

20. The national communication should describe the overall policy context, including any national targets for greenhouse gas mitigation. Strategies for sustainable development or other relevant policy objectives may also be covered. Relevant inter-ministerial decision-making processes or bodies may be noted.

21. The national communication should provide a description of the way in which progress with policies and measures to mitigate GHG emissions is monitored and evaluated over time. Institutional arrangements for monitoring of GHG mitigation policy should also be reported in this context.

D. Policies and measures and their effects

22. The presentation of each policy and measure shall include information on each of the subject headings listed below. The presentation should be concise and should include information on the detail suggested after each subject heading:

(a) *Name and short description of the policy or measure;*

(b) *Objectives of the policy or measure.* The description of the objectives should focus on the key purposes and benefits of the policies and measures, including a description of activities and /or source and sink categories affected. Objectives should be described in quantitative terms, to the extent possible;

(c) *The greenhouse gas or gases affected;*

(d) *Type or types of policy or measure.* Use, to the extent possible, the following terms: economic, fiscal, voluntary/negotiated agreements, regulatory, information, education, research, other;

(e) *Status of implementation.* It should be noted whether the policy or measure is in the planning stage or is adopted or whether it is under implementation. For adopted and implemented measures, additional information may include the funds already provided, future budget allocated and the time-frame for implementation;

(f) *Implementing entity or entities.* This should describe the role of national, state, provincial, regional and local government and the involvement of any other entities.

23. In addition, the description of each policy and measure reported should include, as appropriate, *a quantitative estimate of the impacts of individual policies and measures or collections of policies and measures*. Such information includes estimated changes in activity levels and/or emissions and removals due to adopted and implemented policies and measures reported and a brief description of estimation methods. Information should be presented as an estimate for a particular year such as 1995, 2000 and 2005, not for a period of years.

24. Parties may also provide information under the headings below for each policy and measure reported:

(a) *Information about the costs of policies and measures*. Such information should be accompanied by a brief definition of the term 'cost' in this context;

(b) *Information about non-GHG mitigation benefits of policies and measures*. Such benefits may include, for example, reduced emissions of other pollutants or health benefits;

(c) *How the policy or measure interacts with other policies and measures at the national level*. This may include a description of how policies complement each other in order to enhance overall greenhouse gas mitigation.

25. Parties shall provide information on how they believe their policies and measures are modifying longer-term trends in anthropogenic GHG emissions and removals consistent with the objective of the Convention.

E. Policies and measures no longer in place

26. When policies and measures listed in previous national communications are no longer in place, Parties may explain why this is so.

Table 1. Summary of policies and measures by sector ^a

Name of policy or measure ^b	Objective and/or activity affected	GHG affected	Type of instrument	Status ^c	Implementing entity or entities	Estimate of mitigation impact, by gas (for a particular year, not cumulative, in CO ₂ equivalent) ^d		
						1995	2000	2005

^a Separate tables shall be completed for each sector, as set out in paragraph 17.

^b Parties should use an asterisk (*) to indicate that a measure is included in the 'with measures' projection.

^c To the extent possible, the following descriptive terms should be used: *implemented, adopted, planned*. Additional information may be provided on funding and the relevant time-scale.

^d Parties may add columns for additional years (for example 2010, 2015, etc.)

VI. PROJECTIONS AND THE TOTAL EFFECT OF POLICIES AND MEASURES

A. Purpose

27. The primary objective of the projections section of the national communication is to give an indication of future trends in GHG emissions and removals, given current national circumstances and implemented and adopted policies and measures, and to give an indication of the path of emissions and removals without such policies and measures.

B. Projections

28. At a minimum, Parties shall report a 'with measures' projection, in accordance with paragraph 29 and may report 'without measures' and 'with additional measures' projections.

29. A '**with measures**' projection shall encompass currently implemented and adopted policies and measures. If provided, a '**with additional measures**' projection also encompasses planned policies and measures. If provided, a '**without measures**' projection excludes all policies and measures implemented, adopted or planned after the year chosen as the starting point for this projection. In reporting, Parties may entitle their 'without measures' projection as a 'baseline' or 'reference' projection, for example, if preferred, but should explain the nature of this projection.

30. Parties may report sensitivity analysis for any of the projections, but should aim to limit the number of scenarios presented.

C. Presentation of projections relative to actual data

31. Emission projections shall be presented relative to actual inventory data for the preceding years.

32. For the 'with measures' and 'with additional measures' projections, the starting point should generally be the latest year for which inventory data are available in the national communication. For the 'without measures' projection, the starting point may be 1995 or Parties may provide a 'without measures' projection starting from an earlier year such as 1990 or another base year, as appropriate.

33. Parties may use 'normalized' data in making their projections. However, Parties should present their projections relative to unadjusted inventory data for the preceding years. In addition, Parties may present their projections relative to adjusted inventory data. In this case, Parties shall explain the nature of the adjustments.

D. Coverage and presentation

34. Projections shall be presented on a sectoral basis, to the extent possible, using the same sectoral categories used in the policies and measures section.

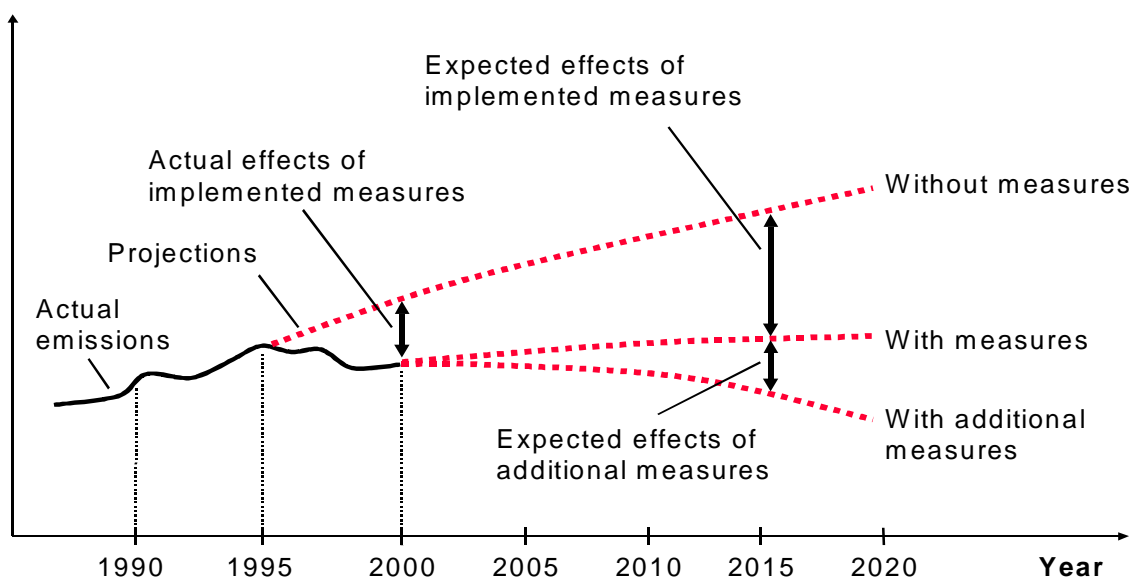
35. Projections shall be presented on a gas-by-gas basis for the following greenhouse gases: CO₂, CH₄, N₂O, PFCs, HFCs and SF₆ (treating PFCs and HFCs collectively in each case). Parties may also provide projections of the indirect greenhouse gases carbon monoxide, nitrogen oxides and non-methane volatile organic compounds, as well as sulphur oxides. In addition, projections shall be provided in an aggregated format for each sector as well as for a national total, using global warming potential (GWP) values agreed upon by the Conference of the Parties.

36. To ensure consistency with inventory reporting, emissions projections related to fuel sold to ships and aircraft engaged in international transport shall, to the extent possible, be reported separately and not included in the totals.

37. In view of the objective of the Convention and the intent to modify longer-term trends in emissions and removals, Parties should include projections on a quantitative basis for the years 2005, 2010, 2015 and 2020. Projections should be presented in a tabular format by sector and gas for each of these years, together with actual data for the period 1990 to 2000 or the latest year available. For Parties using a base year different from 1990 for their inventories, in accordance with Article 4.6 of the Convention, actual data for that year shall be given.

38. Diagrams illustrating the information in paragraphs 34 to 37 should be presented showing unadjusted inventory data and a 'with measures' projection, for the period 1990 (or another base year, as appropriate) to 2020. Additional diagrams may also be presented. Figure 1 illustrates the presentation of a hypothetical Party's projection for a single gas. It shows unadjusted inventory data for the period 1990 to 2000. It shows 'with measures' and 'with additional measures' scenarios starting from 2000, and a 'without measures' scenario starting from 1995.

Figure 1: Hypothetical Party's projection for emissions of one gas



Note : NC2: second national communication
NC3: third national communication

E. Assessment of aggregate effects of policies and measures

39. The estimated and expected effects of individual policies are addressed in the policies and measures section of the national communication. In the projections section of the national communication, Parties shall present the estimated and expected total effect of implemented and adopted policies and measures. Parties may also present the total expected effect of planned policies and measures.

40. Parties shall provide an estimate of the total effect of their policies and measures, in accordance with the 'with measures' definition, compared to a situation without such policies and measures. This effect shall be presented in terms of GHG emissions avoided or sequestered, by gas (on a CO₂ equivalent basis), in 1995 and 2000, and should also be presented for 2005, 2010, 2015 and 2020 (not cumulative savings). This information may be presented in tabular format.

41. Parties may calculate the total effect of their measures by taking the difference between a 'with measures' and 'without measures' projection. Alternatively, Parties may use another approach, for example individually assessing the effect of each significant policy and measure, and aggregating the individual effects to arrive at a total. In either case, when reporting, it should be clear from what year onward it is assumed that policies are implemented or not implemented in making the calculations.

F. Methodology

42. When projecting greenhouse gas emissions and removals and estimating the total effects of policies and measures on emissions and removals, Parties may use any models and/or approaches they choose. Sufficient information should be reported in the national communication to allow a reader to obtain a basic understanding of such models and/or approaches.

43. In the interests of transparency, for each model or approach used, Parties should briefly:

- (a) Explain for which gases and/or sectors the model or approach was used;
- (b) Describe the type of model or approach used and its characteristics (for example, top-down model, bottom-up model, accounting model, expert judgement);
- (c) Describe the original purpose the model or approach was designed for and, if applicable, how it has been modified for climate change purposes;
- (d) Summarize the strengths and weaknesses of the model or approach used;
- (e) Explain how the model or approach used accounts for any overlap or synergies that may exist between different policies and measures.

44. Parties should provide references for more detailed information related to (a) to (e) above.

45. Parties should report the main differences in the assumptions, methods employed, and results between projections in the current national communication and those in earlier national communications.

46. The sensitivity of the projections to underlying assumptions should be discussed qualitatively and, where possible, quantitatively.

47. To ensure transparency, Parties should report information about key underlying assumptions and values of variables such as GDP growth, population growth, tax levels and international fuel prices, using table 2. This information should be limited to that which is not covered under paragraph 48, i.e. it should not include sector-specific data.

Table 2. Summary of key variables and assumptions in the projections analysis

	Historic			Projected ³			
	1990	1995	2000	2005	2010	2015	2020
Variable 1 (e.g. GDP growth)							
Variable 2 (e.g. world oil prices in US\$/barrel)							

48. To provide the reader with an understanding of emission trends in the years 1990 to 2020, Parties shall present relevant information on underlying factors and activities for each sector. This information on factors and activities underlying may be presented in tabular format.

VII. VULNERABILITY ASSESSMENT, CLIMATE CHANGE IMPACTS AND ADAPTATION MEASURES

49. A national communication shall include information on the expected impacts of climate change and an outline of the action taken to implement Article 4.1(b) and (e) with regard to adaptation. Parties are encouraged to use the Intergovernmental Panel on Climate Change (IPCC) Technical Guidelines for Assessing Climate Change Impacts and Adaptations and the United Nations Environment Programme (UNEP) Handbook on Methods for Climate Change Impacts Assessment and Adaptation Strategies. Parties may refer, *inter alia*, to integrated plans for coastal zone management, water resources and agriculture. Parties may also report on specific results of scientific research in the field of vulnerability assessment and adaptation.

³ Parties may indicate with an asterisk where the data are not an output but have been assumed as an input to the emission projections.

VIII. FINANCIAL RESOURCES AND TRANSFER OF TECHNOLOGY

50. In accordance with Article 12.3, Annex II Parties shall provide details of measures taken to give effect to their commitments under Article 4.3, 4.4, and 4.5, as follows.

51. Parties shall indicate what "new and additional" financial resources they have provided pursuant to Article 4.3. Parties shall clarify how they have determined such resources as being "new and additional" in their national communications. In communicating this information, Parties shall complete table 3.

52. Parties shall provide detailed information on the assistance provided for the purpose of assisting developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation to those adverse effects, in textual format and with reference to table 5.

53. Parties shall provide any information on any financial resources related to the implementation of the Convention provided through bilateral, regional and other multilateral channels. Parties should complete tables 4 and 5.

54. Parties shall, when reporting details of measures related to the promotion, facilitation and financing of the transfer of, or access to, environmentally sound technologies, clearly distinguish between activities undertaken by the public sector and those undertaken by the private sector. As the ability of Parties to collect information on private sector activities is limited, Parties may indicate, where feasible, in what way activities by the private sector help meet the commitments of Parties under Article 4.3, 4.4 and 4.5 of the Convention.

55. Parties shall report on some significant success stories related to technology transfer, using table 6 below. Parties shall also report their activities for financing access by developing countries to "hard" or "soft" environmentally sound technologies.⁴

56. Parties shall report information, in textual format, on steps taken by governments to promote, facilitate and finance transfer of technology, and to support development and enhancement of endogenous capacities and technologies of developing countries.

⁴ The term "transfer of technology", as used here, encompasses practices and processes such as "soft" technologies, for example, capacity-building, information networks, training and research, as well as "hard" technologies, for example, equipment to control, reduce or prevent anthropogenic emissions of greenhouse gases in the energy, transport, forestry, agriculture, and industry sectors, to enhance removals by sinks, and to facilitate adaptation.

Table 3. Financial contributions to the Global Environment Facility (GEF)⁵

	Contribution ⁶ (millions of US dollars)		
	1997	1998	1999 *
Global Environment Facility			

* Parties can report on the year 2000 if data are available.

⁵ In filling out this table, Parties may wish to refer to contributions related to the implementation of the Convention.

⁶ Parties may indicate their overall contribution to the GEF over a multi-year period.

Table 4. Financial contributions to multilateral institutions and programmes⁷

Institution or programme	Contribution ⁸ (millions of US dollars)		
	1997	1998	1999 *
Multilateral institutions: 1. World Bank 2. International Finance Corporation 3. African Development Bank 4. Asian Development Bank 5. European Bank for Reconstruction and Development 6. Inter-American Development Bank 7. United Nations Development Programme - specific programmes 8. United Nations Environment Programme - specific programmes 9. UNFCCC - Supplementary Fund 10. Other			
Multilateral scientific, technological and training programmes: 1. 2. 3. 4. 5.			

* Parties can report on the year 2000 if data are available.

⁷ In filling out this table, Parties may wish to refer to contributions related to the implementation of the Convention.

⁸ Parties may indicate their overall contribution to multilateral institutions over a multi-year period.

Table 5. Bilateral and regional financial contributions related to the implementation of the Convention, 1997 ⁹
(millions of US dollars)

Recipient country/region	Mitigation						Adaptation		
	Energy	Transport	Forestry	Agriculture	Waste management	Industry	Capacity-building	Coastal	Other vulnerability assessments
1									
2.									
3.									
4.									
5									
6									
7									
8.									
9									
10									
11									
12.									
13.									
14									
15. All other									

Similar tables shall be completed for 1998, 1999 and, if the information is available, for 2000.

⁹ Parties may also wish to indicate separately their contribution to developing country Parties to enable the latter to comply with their obligations under Article 12.1.

Table 6. Description of selected projects or programmes that promoted practicable steps to facilitate and/or finance the transfer of, or access to, environmentally-sound technologies

Project / programme title:			
Purpose:			
Recipient country	Sector	Total funding	Years in operation
Description:			
Indicate factors which led to project's success:			
Technology transferred:			
Impact on greenhouse gas emissions/sinks (optional):			

IX. RESEARCH AND SYSTEMATIC OBSERVATION

57. Pursuant to Articles 4.1(g) and (h), 5 and 12.1(b), Annex I Parties shall communicate information on their actions relating to research and systematic observation.

58. The national communication shall address both domestic and international activities (for example, the World Climate Programme, the International Geosphere-Biosphere Programme, the Global Climate Observing System, and the IPCC). They shall also reflect action taken to support related capacity-building in developing countries.

59. Parties shall provide summary information on global climate observing system activities in accordance with paragraph 64 below. To guide reporting under section IX, parts A and C, Parties should refer to the detailed guidance provided in the UNFCCC reporting guidelines on global climate observing systems (contained in document FCCC/CP/1999/L./Add.1).

60. The national communication should report, in summary form, on action taken. For example, the results of research studies or model runs or data analysis should not be included in this section.

A. General policy on and funding of research and systematic observation

61. Parties should provide information about general policy on and funding of research and systematic observation.

62. Parties should identify the opportunities for and barriers to free and open international exchange of data and information and report on action taken to overcome barriers.

B. Research

63. Parties should provide, *inter alia*, information on highlights, innovations and significant efforts made with regard to:

- (a) Climate process and climate system studies, including paleoclimate studies;
- (b) Modelling and prediction, including general circulation models;
- (c) Research on the impacts of climate change;
- (d) Socio-economic analysis, including analysis of both the impacts of climate change and response options;
- (e) Research and development on mitigation and adaptation technologies.

C. Systematic observation

64. Parties should provide summary information on the current status of national plans, programmes and support for ground- and space-based climate observing systems, including long-term continuity of data, data quality control and availability, and exchange and archiving of data in the following areas:

- (a) Atmospheric climate observing systems, including those measuring atmospheric constituents;
- (b) Ocean climate observing systems;
- (c) Terrestrial climate observing systems;
- (d) Support for developing countries to establish and maintain observing systems, and related data and monitoring systems.

X. EDUCATION, TRAINING AND PUBLIC AWARENESS

65. In accordance with Articles 4.1(i), 6 and 12.1(b), Annex I Parties shall communicate information on their actions relating to education, training and public awareness. In this section, Parties should report, *inter alia*, on public information and education materials, resource or information centres, training programmes, and participation in international activities. Parties may report the extent of public participation in the preparation or domestic review of the national communication.

66. The national communication may present information on such aspects as:

- (a) General policy toward education, training and public awareness;
- (b) Primary, secondary and higher education;
- (c) Public information campaigns;
- (d) Training programmes;
- (e) Resource or information centres;
- (f) Involvement of the public and non-governmental organizations;
- (g) Participation in international activities.

XI. UPDATING OF THE GUIDELINES

67. These guidelines for national communications shall be reviewed and revised, as appropriate, in accordance with decisions of the Conference of the Parties on this matter.

Annex

STRUCTURE OF THE NATIONAL COMMUNICATION

I. EXECUTIVE SUMMARY

**II. NATIONAL CIRCUMSTANCES RELEVANT TO GREENHOUSE GAS
EMISSIONS AND REMOVALS**

Flexibility in accordance with Article 4.6 and 4.10

III. GREENHOUSE GAS INVENTORY INFORMATION

A. Summary tables (or as an annex to the national communication)

B. Descriptive summary

IV. POLICIES AND MEASURES

A. Policy-making process

B. Policies and measures and their effects

Table 1

C. Policies and measures no longer in place

V. PROJECTIONS AND THE TOTAL EFFECT OF POLICIES AND MEASURES

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B. Assessment of aggregate effects of policies and measures

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A. Expected impacts of climate change

B. Vulnerability Assessment

C. Adaptation measures

VII. FINANCIAL RESOURCES AND TRANSFER OF TECHNOLOGY

A. Provision of ‘new and additional’ resources

B. Assistance to developing country Parties that are particularly vulnerable to climate change

C. Provision of financial resources

D. Activities related to transfer of technology

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VIII. RESEARCH AND SYSTEMATIC OBSERVATION

A. General policy on research and systematic observation

B. Research

C. Systematic observation

IX. EDUCATION, TRAINING AND PUBLIC AWARENESS

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