

Distr. GENERAL

FCCC/SBI/2001/INF.1 28 June 2001

ENGLISH ONLY

SUBSIDIARY BODY FOR IMPLEMENTATION Fourteenth session Bonn, 16-27 July 2001 Item 4 (b) of the provisional agenda

## **REPORTS ON INTER-SESSIONAL ACTIVITIES**

## WORK OF THE CONSULTATIVE GROUP OF EXPERTS ON NATIONAL COMMUNICATIONS FROM PARTIES NOT INCLUDED IN ANNEX I TO THE CONVENTION

## <u>Report of the interregional workshop of the Consultative Group of Experts</u> on National Communications from Parties Not Included in Annex I to the <u>Convention</u>

#### CONTENTS

			Paragraphs	<u>Page</u>		
I.	INTRODUCTION		1-9	3		
	A.	Mandate	1-2	3		
	B.	Background	3-6	3		
	C.	Scope of the report	7-9	3		
II.	ISSUES, PROBLEMS AND CONSTRAINTS RELATED TO THE					
	PRE	PARATION OF NATIONAL COMMUNICATIONS	10-120	4		
	A.	National inventories of greenhouse gases	11-46	4		
	B.	Vulnerability and adaptation assessment	47-68	10		
	C.	Abatement	69-88	14		
	D.	Cross-cutting issues	89-120	17		

0						
			Paragraphs	Page		
III.	FINA	NCIAL AND TECHNOLOGICAL NEEDS AND				
	CON	STRAINTS	121-144	21		
	A.	Introduction	121-124	21		
	B.	National inventories of greenhouse gases	125-131	22		
	C.	Vulnerability and adaptation assessment	132-137	23		
	D.	Abatement	138-143	24		
	E.	Cross-cutting issues	144	24		
IV.	RECOMMENDATIONS RELATING TO THE IMPROVEMENT					
	OF T	HE UNFCCC REPORTING GUIDELINES	145-163	25		
	A.	National circumstances	146-147	25		
	B.	National inventories of greenhouse gases	148-154	26		
	C.	Vulnerability and adaptation assessment	155-156	26		
	D.	Abatement	157-162	27		
	E.	Cross-cutting issues	163	27		
		-				

# Annex

29

Statement of the interregional workshop of the Consultative
Group of Experts on National Communications from Parties
Not Included in Annex I to the Convention (CGE)

## I. INTRODUCTION

## A. Mandate

1. The Conference of the Parties (COP), by its decision 8/CP.5, established the Consultative Group of Experts on National Communications from Parties Not Included in Annex I to the Convention (CGE) with the objective of improving the process of preparation of national communications by Parties not included in Annex I to the Convention (non-Annex I Parties) (FCCC/CP/1999/6/Add.1). The CGE is comprised of five experts each from the regions of Africa, Asia, Latin America and the Caribbean, six experts from Parties included in Annex I to the Convention (Annex I Parties), and three experts from organizations with relevant experience in the preparation of national communications.

2. The secretariat was requested to facilitate the work of the CGE, *inter alia*, by coordinating its meetings and compiling reports on its meetings and regional workshops for consideration by the subsidiary bodies.

## B. Background

3. The CGE held three regional workshops in 2000, one each in Nairobi, Kenya (Africa), Bangkok, Thailand (Asia) and in Mexico City, Mexico (Latin America and the Caribbean), and the fourth workshop, the interregional workshop, was planned to be held in 2001.

4. The interregional workshop of the CGE was held in Panama City, Panama, from 19 to 22 March 2001. A total of 64 experts from 48 non-Annex I countries, six Annex I countries and two international organizations participated in the workshop.

5. The objectives of the workshop were to consider further the conclusions and recommendations of the three CGE regional workshops held in 2000, to facilitate interregional exchange of experiences on the preparation of national communications, and to provide inputs to the CGE for the preparation of its report to the subsidiary bodies in accordance with decision 8/CP.5.

6. The workshop provided an excellent opportunity for further consideration of the conclusions and recommendations of the three regional workshops held in 2000, and for experts directly involved in the preparation of national communications to exchange experiences. The experts discussed analytical and methodological matters and technical problems and constraints as well as lessons learned from what worked; they also discussed best practices involved in the preparation of national commendations improvements.

## C. Scope of the report

7. This report briefly describes the deliberations of the workshop participants on the various elements of national communications, namely greenhouse gas (GHG) inventories, vulnerability and adaptation assessments, abatement options, research and systematic observations, education, training and public awareness, information and networking, and the financial and technical support required for undertaking these activities.

8. Section II outlines the issues, problems and constraints identified relating to the preparation of national GHG inventories, vulnerability and adaptation assessments, abatement options, and cross-cutting issues of education, training and public awareness and information and networking, and recommendations made for their improvement. This section also briefly outlines the programmes that facilitate and support the preparation of national communications. Section III outlines the financial and technological needs and constraints relating to the preparation of various elements of the national communication and notes recommendations made. Section IV focuses on the recommendations relating to the improvement of the UNFCCC reporting guidelines.

9. The annex to this report gives the full text of the final statement issued by the interregional workshop, acknowledging the participation of 93 nominated experts from 70 non-Annex I Parties, and their valuable contributions to the CGE workshops. The statement urges CGE members to take into consideration the recommendations of the workshop in fulfilling their tasks. The participants also thank the Governments of Mexico, Kenya, Thailand and Panama for hosting the workshops and the secretariat for organizing them; the Governments of the United States of America, Australia, Switzerland, Finland, Canada and Germany are thanked for funding the workshops.

## II. ISSUES, PROBLEMS AND CONSTRAINTS RELATED TO THE PREPARATION OF NATIONAL COMMUNICATIONS

10. The experts at the interregional workshop identified and discussed many of the issues, problems and constraints faced by non-Annex I Parties in the preparation of their national communications. Many of these issues, problems and constraints are common to the three regions of Africa, Asia, and Latin America and the Caribbean. These have been presented according to the various elements of the national communication in the following sections.

# A. National inventories of greenhouse gases

11. The participants at the interregional workshop agreed with the conclusions of the experts at the three regional workshops held in 2000 that the preparation and updating of inventories on a systematic and continuous basis by a national team is the most important element in the proper collection and use of activity data, the application of methods, and the selection of emission factors. They further noted that the continuity of the process for national GHG inventories preparation is currently not assured, due to changes in the technical staff and institutions involved in the process.

## 1. <u>Institutional issues: preparation and reporting of inventories</u>

12. Most non-Annex I Parties lack sufficient resources to collect the necessary activity data for the estimation of GHG emissions. In some regions the need was identified to strengthen collaboration among the national institutions in order to enhance the quality of the activity data.

13. Although each enabling activity under the UNFCCC process has a technical coordinator, some countries report that no technical coordinators, secretariat or technical focal points are

mandated or provided with the resources for performing the technical work necessary for the preparation of national communications and/or national GHG inventories.

14. In some countries, the existing institutions are unable to satisfy the reporting obligations of Parties with respect to national GHG inventories.

15. There is a need to improve the exchange of information related to national inventories amongst the countries within a region, since at present only a few national communication teams are sharing information on emission factors and activity data. This exchange may result in the use of more appropriate emission factors, methods and activity data, thereby improving the quality and reliability of the inventories.

16. The workshop participants agreed that the collection of activity data for the preparation of national communications is closely linked to the strengthening of national capacities. The participants also noted that activity data collected for the preparation of GHG inventories could be used for national economic development planning purposes.

17. The experts welcomed the development of the regional projects funded by the Global Environment Facility (GEF) which are aimed at improving the ability to collect, process and archive activity data as well as the development of local and regional emission factors where appropriate.

## Recommendations

18. In order to overcome some of the institutional problems related to the preparation and reporting of GHG inventories, the experts made the following recommendations:

(a) The development and strengthening of the institutional capacity of the national agencies responsible for the coordination of research activities in the country and establish a climate change programme;

(b) Strengthening of the existing linkages between the national organizations involved in the collection of activity data and those organizations responsible for the preparation of the national inventories in the context of the second national communication;

(c) Furthering of the development of appropriate information management systems for archiving and updating inventory data;

(d) Encouragement of national focal points under the Convention process, where necessary, to designate technical coordinators/technical focal points or a secretariat for the preparation of national GHG inventories;

(e) Creation or strengthening of existing regional networks in order to facilitate the sharing of inventory information among experts and institutions involved in the preparation of national GHG inventories;

(f) Invitation of relevant regional institutions to promote and support regional initiatives for climate change networking;

(g) Development of appropriate national institutional frameworks for collecting, updating and managing activity data necessary for the preparation of national inventories.

## 2. <u>Technical issues: collection of activity data and development of local and/or</u> <u>regional emission factors</u>

19. In preparing national GHG inventories, Parties experienced problems in the collection of activity data and in the use of emission factors in all sectors identified by the Intergovernmental Panel on Climate Change (IPCC).

20. In many non-Annex I Parties, activity data in the land-use change and forestry (LUCF) sector are lacking or are not accessible. Most Parties highlighted the relatively high degree of uncertainty associated with activity data in this sector. Participants in the previous regional workshops had also mentioned that availability of such data is patchy, and it is therefore difficult to obtain activity data in the necessary time-series for achieving more reliable projections. In some cases, wide differences were reported between international and national activity data for the forestry sector.

21. In many countries, activity data are also lacking or are not accessible in the agricultural sector. Difficulties have been experienced in obtaining activity data for agricultural emissions, particularly because these data are dispersed and are in the rural areas where there is minimal data collection or no system at all.

22. The experts from the three regions stated that the level of disaggregation of national energy balances is often not consistent with that of the IPCC Guidelines. For instance, some Parties use the reference approach because they lack the necessary disaggregated data for using the technology-based approach. Activity data are lacking for biomass combustion whose emissions represent an important share of the total GHG emissions for some countries of the three regions. The collection of such activity data is difficult due to the widespread use of these fuels in the informal sector, and many households are at the same time both producers and users. Because of the multiplicity of end-users of kerosene, there will be problems in obtaining accurate activity data on kerosene used in households, without adequate surveys. Similarly, the types of fuel commonly used in the transport sector can also be used in other sectors. Hence, without adequate statistics from surveys there will be a lack of accurate activity data from the energy sector.

23. In the industrial processes sector, the difficulty of collecting activity data from the private sector was acknowledged. Most reporting Parties do not have a system for collecting data on hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>). Although SF<sub>6</sub> emissions do not seem to be relevant for many non-Annex I Parties, they could be a significant source of emissions for those Parties with a relatively high level of industrialization. In all three regions, difficulties were experienced in obtaining reliable activity data for estimating these emissions.

24. In all regions, there were difficulties in obtaining reliable activity data for estimating emissions from the waste sector. The specific conditions of waste management in the three regions suggest that the default activity data provided by the IPCC Guidelines should take the waste management practices prevailing in these regions more into consideration.

25. The workshop participants suggested that Parties should use activity data from regional organizations where available, such as the Organización Latinoamericana de Energía (OLADE) in Latin America.

26. Default emission factors and coefficients provided in the IPCC Guidelines for LUCF, agriculture, waste and fugitive methane emissions, as well as non-CO<sub>2</sub> emissions from fuel combustion, do not reflect well the national circumstances of most non-Annex I Parties. Their use increases the uncertainty of the estimates.

27. Information on emission factors resulting from research carried out in some non-Annex I Parties were often not included in the IPCC Guidelines because they are not made widely available.

28. The workshop participants supported the development by the IPCC of a database on emission factors on the understanding that the information provided by the database will address the needs of these Parties.

29. The IPCC Guidelines encourage the development and use of national emission factors that suit national circumstances better than the default emission factors provided in the Guidelines. However, most countries of the three regions lack the resources adequate for this purpose.

## Recommendations

30. The workshop participants made a number of recommendations for overcoming the technical problems relating to the collection of activity data and development of local/regional emissions factors:

(a) The use of activity data from regional organizations should be encouraged, if available and appropriate, and also the use of regional expertise in developing emission factors;

(b) The creation and development of a database on emission factors should be supported on the understanding that the information provided will address the needs of non-Annex I Parties in the preparation of their national GHG inventories. Information resulting from research carried out in non-Annex I Parties should be included in the development of such a database.

## 3. Methodological issues: revised 1996 IPCC Guidelines

31. In preparing their national GHG inventories, Parties experienced problems in the use of the IPCC Guidelines in the land-use change and forestry, energy, agriculture and waste sectors. Many of these problems were related to land-use change and forestry.

32. The section on LUCF is not appropriate for countries of these three regions because in many cases the local classification of forests is different and does not correlate with the IPCC classification system. In some instances, the IPCC Guidelines are not clear enough for consistent reporting across Parties, for example for estimating emissions or sequestration in managed natural forests. Problems were identified in the use of default values for carbon density, growth rates of biomass and emission rates of soil carbon. Furthermore, there is a need for better

definition of the terms used in this section of the IPCC methodology. Emission factors for charcoal production are lacking in the LUCF sector.<sup>1</sup> In addition, there are problems in distinguishing fractions of biomass burnt on-site, burnt off-site or left to decay.

33. In the energy sector, the Guidelines do not properly address the methods for the estimation of emissions related to biomass use in households and industries, or ethanol used in the transport sector. Specific conditions of fugitive methane emissions and flaring from the extraction and processing of oil and gas in all regions were not taken into account.

34. In the agricultural sector, IPCC Guidelines for estimation of emissions from livestock and rice cultivation in many countries of the African and Asian regions are not appropriate; for example, in the classification of animals and related emission factor, and the classification of agricultural soils.

35. The specific circumstances of waste disposal in the Asian and African regions are not appropriately reflected in the methods for estimating waste emissions in the IPCC Guidelines. For example, common solid waste practices involve burning and/or the use of open dump; methane  $(CH_4)$  emissions from waste are thus not relevant in many African and Asian countries due to the lack of anaerobic conditions typical of landfills considered in the IPCC Guidelines.

36. According to the participants at the CGE workshops, the IPCC Guidelines seldom took into consideration the peer-reviewed literature in languages other than English. In addition, there are many possible useful data in non peer-reviewed academic literature, which are not taken into consideration.

37. Many reporting Parties provided worksheets in the IPCC reporting format. These worksheets improve the transparent reporting of the inventory data and make the sharing of inventory information among experts and countries much easier.

38. The notation keys indicated by the IPCC Guidelines for omissions in reporting emissions (e.g. NE: not estimated; NO: not occurring) have not been widely used. This affects the assessment of the completeness of reporting.

39. Participants at the workshops recognized the value of the IPCC Good Practice Guidance (GPG) for improving the quality of the national GHG inventories of non-Annex I Parties. However, they mentioned the need for translation and dissemination of the GPG among the experts of the region, and training in its application.

# Recommendations

40. Participants made several recommendations for overcoming the difficulties mentioned with regard to use of the IPCC 1996 Revised Guidelines for national GHG inventories. These are as follows:

<sup>&</sup>lt;sup>1</sup> Emission factors for charcoal production are included in the energy section of the IPCC Guidelines for national GHG inventories (Table 1.14).

(a) In its future revision of the Guidelines, the IPCC should be urged to reflect specific conditions and circumstances of non-Annex I Parties better, in particular in the LUCF, energy, agriculture and waste sectors;

(b) In the LUCF sector, appropriate consideration should be given to the local classification of forests in the three regions, noting that countries are free to choose whichever classification is most appropriate to their own conditions. Clarity of the IPCC Guidelines should be improved, for example with regard to the definition of managed natural forests. More and improved default values for carbon density, growth rates of biomass, and release and/or storage rates relating to soil carbon should be provided;

(c) In the energy sector, the future Guidelines should better reflect emissions from biomass combustion in the household and industrial sectors, ethanol use in the transport sector and fugitive methane emissions from flaring of extraction and processing of oil and gas;

(d) In the agriculture sector, appropriate consideration should be given to livestock, rice cultivation, and classification of agricultural soils; and

(e) The specific conditions of waste disposal, such as burning and/or use of open dumps should be appropriately reflected in the methods for estimating emissions.

41. Participants called upon the IPCC to take into account in the future revision of its Guidelines the relevant literature in languages other than English, and appropriate literature supported by national authority in charge of the preparation of national inventories in the context of national communications.

# 4. <u>Use of the UNFCCC guidelines</u>

42. The analysis of the use of the UNFCCC guidelines took into consideration information contained in the 51 national GHG inventories submitted officially to the UNFCCC secretariat. Over 70 per cent of reporting Parties used the Revised 1996 IPCC Guidelines as encouraged by the conclusions of the Subsidiary Body for Scientific and Technological Advice (SBSTA) at its fourth session. Other Parties which are currently preparing their national communications are also using these guidelines. Although the revised 1996 IPCC Guidelines were adopted by the IPCC in September 1996, they became available to Parties for their use only after the adoption of decision 10/CP.2 in November 1996.

43. The UNFCCC guidelines annexed to decision 10/CP.2 were of great value in facilitating the reporting of national communications by non-Annex I Parties. In the context of decision 8/CP.5 and in line with the experience gained by the national experts from non-Annex I Parties in the use of the IPCC Guidelines for the preparation of national GHG inventories, the experts participating in the CGE workshops recommended the update of the inventory section of the UNFCCC guidelines in order to enhance the completeness and the transparency of reporting.

44. Over 70 per cent of reporting Parties provided inventory data using the IPCC reporting format (summary table 7A or modifications of such a table) which is more detailed than that of table II of the UNFCCC guidelines. For example, table II does not explicitly require the reporting of  $N_2O$  emissions from agricultural soils and  $CH_4$  emissions from waste. However, six out of 12 non-Annex I Parties which used table II presented  $CH_4$  emissions from waste, and 10

out of 37 non-Annex I Parties which used the IPCC summary table 7A reported  $N_2O$  emissions from agricultural soils.

45. Although the UNFCCC guidelines encourage Parties to include, *inter alia*, PFC and  $SF_6$  emissions, they contain no explicit request to include HFC emissions. At its fourth session, however, SBSTA, after the adoption of decision 10/CP.2, encouraged the reporting of actual emissions of these three gases. Three Parties provided information on HFC, PFC and  $SF_6$  emissions.

46. The recommendations of the workshop participants for the improvement of the UNFCCC guidelines relating to GHG inventories are included in paragraphs 148 to 154.

## B. Vulnerability and adaptation assessment

47. Participants agreed that vulnerability and adaptation assessment is of importance in dealing with climate change concerns in non-Annex I Parties. It was recognized that vulnerability and adaptation assessment is a continuous process and the emphasis given to vulnerability and adaptation assessment in the current guidelines is not on par with the importance given to this subject by non-Annex I Parties and the recent conclusions and findings of the IPCC WGII Third Assessment Report. There is, therefore, a need to give it explicit recognition in the guidelines for the preparation of national communications from non-Annex I Parties.

48. The workshop participants raised many points which affect vulnerability and adaptation assessments in non-Annex I countries. These relate to development of methodology, institutional arrangements for vulnerability and adaptation assessment, reporting of vulnerability and adaptation assessment in the national communications, education, training and research, and financial and technical support required for vulnerability and adaptation assessment in non-Annex I Parties.

## 1. Institutional arrangements

49. The continuous nature of vulnerability and adaptation assessment needs to be reflected in institutional arrangements. Participants mentioned a number of ways in which this could be achieved, including:

(a) Establishing either regional or subregional and national climate change centres;

(b) Strengthening, improving or initiating cooperative research programmes between and within countries;

(c) Fostering active involvement of universities, research centres and other relevant expertise in the vulnerability and adaptation assessment components of non-Annex I communications;

(d) Enhancing ongoing collaboration between universities and research centres and relevant experts; and

(e) Conducting vulnerability and adaptation assessments nationally and/or regionally using national and/or regional experts and facilities.

50. Participants noted the critical role of focal points in improving national communications, in particular the vulnerability and adaptation assessments that are being prepared and reported. Among matters raised, the following needs were identified:

(a) Training for climate change focal points to enable them to bring together the range of expertise required to conduct integrated vulnerability and adaptation assessments and to make better use of local and/or regional expertise, universities and research organizations;

(b) Support for climate change focal points to ensure the continuity of the vulnerability and adaptation assessment process;

51. National communication processes offer an opportunity to involve decision-makers in the consideration of issues related to vulnerability and adaptation to climate change. Where decision-makers are actively engaged in the process, countries can benefit through incorporating the findings of vulnerability and adaptation assessments into strategic and development planning. There is therefore a need to exchange information on how to engage decision-makers in the national communication process.

52. Additional needs for vulnerability and adaptation assessments include:

(a) Improved training, including the provision of scholarships;

(b) Better mechanisms for both South-South and North-South collaboration on vulnerability and adaptation assessments;

(c) More active and widespread participation by experts in non-Annex I countries in the IPCC assessments relevant to vulnerability and adaptation. This could be achieved through, for example, greater willingness by governments to nominate national experts from both within and outside government, and the IPCC focal points distributing IPCC material more widely within countries;

(d) Opportunities to peer-review the vulnerability and adaptation assessments used within national communications.

## Recommendations

53. The participants recognized that vulnerability and adaptation assessments have been constrained by lack of, or insufficient, coordination and collaboration between institutions and organizations responsible for the preparation of national communications. To overcome these constraints, the participants recommended the following actions:

(a) Establish and/or strengthen national focal points for national communications;

(b) Establish and/or strengthen national, regional/subregional centres of excellence for vulnerability and adaptation assessments;

(c) Encourage closer collaboration of national communication focal points with relevant institutions, agencies and organizations;

(d) Encourage participation by national experts in the IPCC process; and

(e) Improve coordination between the IPCC and UNFCCC focal points.

54. There is a need to develop the national and institutional ability to access, analyse and manipulate data for the purposes of vulnerability and adaptation assessment.

#### 2. Education, training and research

55. In recognition of the vital role which can be played by education, training and research in improving vulnerability and adaptation assessments, participants recommended the following:

(a) Encourage organizations to provide methodologies for impact assessments and/or for studies on health, tourism, water, energy and agriculture;

(b) Develop and enhance cooperative research programmes on vulnerability and adaptation assessment amongst all Parties;

(c) Include climate change courses, in particular vulnerability and adaptation assessment courses, at national/regional universities and/or institutions;

(d) Provide training on the use of (computer) models for vulnerability and adaptation assessments and/or studies;

(e) Provide scholarships specifically for vulnerability and adaptation assessment training to build national capacity and to strengthen centres of excellence.

#### 3. Technical issues

56. Participants agreed that there is a need for more integrated approaches to vulnerability and adaptation assessments and for training in the application of these approaches.

57. In many cases, particularly where different countries share natural resources such as coastal zones or water resources within major catchment areas or river systems, there is a need for regional or subregional vulnerability and adaptation assessments. However, participants agreed that, as with assessments conducted within a country's borders, regional and subregional assessments must be country-driven.

58. Information networks and efficient databases are needed to enable countries to share experiences and exchange data for vulnerability and adaptation assessments.

59. Lack of appropriate data also constrains many aspects of vulnerability and adaptation assessments. This lack of data arises for many reasons including the lack of adequate monitoring and collection, difficulties experienced by non-Annex I countries in accessing databases that do exist, insufficient national capacity to analyse and manipulate data for the purposes of vulnerability and adaptation assessments, and lack of quality assurance in some required data sets.

60. The workshop participants also noted that there is an urgent need to implement decisions 14/CP.4 and 5/CP.5, relating to research and systematic observations, so that some of the gaps in data for vulnerability and adaptation assessments can be addressed.

#### Recommendations

61. Data gaps and requirements for vulnerability and adaptation assessments need to be addressed through:

(a) The strengthening and rehabilitation of existing observational and/or monitoring stations and networks;

(b) The establishment of data gathering stations and networks where there are gaps;

(c) The provision of equipment and training for archiving, quality control and the retrieval, analysis and use of data.

62. Methodologies developed to undertake vulnerability and adaptation assessments should be adapted by countries to suit their own circumstances.

#### 4. <u>Research and systematic observations</u>

63. Implementation of decisions 14/CP.4 and 5/CP.5 which address research and systematic observations, with a particular focus on the data requirements for vulnerability and adaptation assessments, should be encouraged.

#### 5. Methodological issues

64. Workshop participants identified a number of methodological constraints in undertaking vulnerability and adaptation assessments; these are outlined below.

(a) There is a need to recognize that climate change may influence climate variability, including the frequency and/or intensity of extreme events, and that in many cases, extreme events produce the most identifiable impacts on natural and human systems;

(b) Participants agreed that inadequacy of regional climate change scenarios constrain vulnerability and adaptation assessments for a number of reasons. In some cases, regional climate change scenarios are unavailable; in other cases they are too coarsely resolved, both in time and in space, to be useful;

(c) Climate change scenarios are not always appropriately used in national and/or regional vulnerability and adaptation assessments;

(d) Socio-economic scenarios are important to vulnerability and adaptation assessments, but these have not been used as much as is desirable because methods are either not readily available or there is a lack of experience in developing and using them for vulnerability and adaptation assessments in non-Annex I countries;

(e) Participants noted that methodologies for assessing vulnerability and adaptation is weak, particularly in health, tourism, water, energy and agriculture;

(f) It was further noted that there is a general lack of appreciation of the adaptation options in various sectors to match the time horizons used for vulnerability and adaptation assessment;

(g) Many of the constraints mentioned above mean that few countries are able to integrate their assessments across different sectors, particularly where different sectors interact, such as agriculture and water resources.

65. Another problem is the lack of or unavailability of technical material in any of the languages of the United Nations.

## Recommendations

66. The participants made several recommendations for improving vulnerability and adaptation assessments, as follows:

(a) Where possible countries should seek to use more integrated (cross-sectoral) approaches in vulnerability and adaptation assessments;

(b) The vulnerability and adaptation assessment process should be integrated into the development planning process; and

(c) Technical material should be made available in all languages of the United Nations.

67. Implementation of adaptation is closely linked to policy maker and public awareness and to stakeholder participation in vulnerability and adaptation assessments. Therefore, public awareness and policy maker and/or stakeholder engagement needs to be considered in the development of vulnerability and adaptation assessment methodologies.

68. The recommendations of the workshop participants for the improvement of the UNFCCC guidelines relating to vulnerability and adaptation assessment are included in paragraphs 155 and 156.

## C. Abatement

69. In concurrence with the conclusions of experts at the three regional workshops held in 2000, the participants of the interregional workshop also noted issues and problems relating to abatement options.

#### 1. Issues and problems

70. Information relating to abatement options provided by most non-Annex I Parties in their national communications was not exclusively limited to the chapter on abatement options. In some cases abatement options were presented in other sections of their national communications. In the submitted national communications, the words abatement and mitigation have been used interchangeably.

71. Although non-Annex I Parties do not have commitments to limit GHG emissions, all reporting Parties provided information on mitigation<sup>2</sup> options in their national communications. Some Parties provided information on a list of mitigation projects, in accordance with Article 12.4 of the Convention, which could be implemented to reduce emissions if the necessary financial resources were available.

72. The participants recognized that although Parties have undertaken mitigation analysis, there has been a limited exchange of information and experiences regarding assessment of abatement options.

73. Reporting Parties identified mitigation options in the energy, land-use change and forestry, transport, agriculture, industrial processes, and waste sectors.

74. Reporting Parties used a range of methods to analyse mitigation options. These include the use of expert judgement, spreadsheets and more sophisticated models such as LEAP,<sup>3</sup> ENPEP<sup>4</sup> and MARKAL<sup>5</sup>. However, some Parties have experienced technical problems in using these models and methodologies due to insufficient data and a lack of trained personnel.

75. The primary abatement options analysed by the reporting Parties in the energy sector included energy conservation and efficiency measures, such as improved appliance efficiency and/or building standards. Switching to cleaner fuels and the use of renewable energy, energy efficiency in the power generation sector and cogeneration were also analysed by some Parties.

76. In the transport sector, the main options are a more energy-efficient modal split, imposition of tariffs or taxes on cars, application of varied road tolls and improvement of vehicle maintenance or replacement of old vehicles. Fuel switching, particularly to the use of natural gas and efficiency improvement in different modes of transport such as road, rail, underground and river transport were also considered. The range of other reported measures included use of biomass fuel, improvement of traffic management and implementation of policy measures relating to fuels and cars and the promotion of improved vehicle technology. Further, options reported included the promotion of electric vehicles, use of new catalytic converters and discouraging the importation of used cars.

77. Some Parties considered reforestation, afforestation, plantation development and/or the preservation of existing forests (emission avoidance), forest management, the prevention and control of forest fires, and the implementation of economic instruments such as the imposition of taxes or granting of incentives as mitigation options for the enhancement of sinks in the land-use change and forestry sector.

78. The main mitigation options analysed for the agriculture sector are rice cropping systems, including the adoption of improved management practices in rice cultivation, and the promotion of low  $CH_4$  emitting rice cultivars. Other possible options include those relating to plant nutrient

<sup>&</sup>lt;sup>2</sup> The secretariat uses the term mitigation in this chapter in the same way that reporting Parties used it in their national communications, reflecting efforts reported by Parties in abating, limiting or reducing GHG emissions in the context of their sustainable development plans.

<sup>&</sup>lt;sup>3</sup> LEAP: Long-range Energy Alternatives Planning system.

<sup>&</sup>lt;sup>4</sup> ENPEP: ENergy and Power Evaluation Programme.

<sup>&</sup>lt;sup>5</sup> MARKAL: MARKet ALlocation model.

management, such as the appropriate and rational use of fertilizers, the promotion of improved agricultural practices, and the improvement of livestock production through changes in diet and improvements in feed quality, improved agricultural land utilization and nutrient management.

79. For the waste sector, the main mitigation options analysed are waste minimization, integrated waste management (integration of waste generation, collection, disposal and recycling and reuse), waste water treatment, and methane capture from landfills for use as an energy source.

80. Some reporting Parties indicated the limitations associated with the implementation of mitigation measures such as the use of legislation, subsidies, tax incentives and development funds. The workshop participants also indicated that there are non-financial barriers to the implementation of abatement options and measures. These barriers include social, cultural and technical problems.

81. Some difficulties were encountered in the estimation of emissions reduction associated with the implementation of identified measures, particularly in assessing the cost associated with the implementation of measures and the limited access to appropriate technologies for the development of integrated mitigation strategies and policies.

## Recommendations

82. The participants are of the view that inclusion of mitigation options should still not be obligatory. However it is recommended that the revised UNFCCC guidelines should cover abatement options for the guidance of those Parties who wish to include this aspect in their national communications.

83. It is strongly recommended that the regional exchange of experiences and training in the area of GHG abatement methodologies and assessment be supported. It was further recommended that Parties, regions and subregions should establish networks in order to exchange information on GHG abatement assessment.

84. Technical guidance should be provided to facilitate the assessment of mitigation options for the preparation of national communications, especially regarding the estimation of incremental cost and the construction of scenarios. Special consideration should be given to the limited availability of relevant data and information and to the interaction between abatement options and/or measures.

85. Mitigation options should be evaluated in terms of sustainable development criteria, which must include social, economic and environmental factors. The use of scenarios for evaluation should be approached bearing in mind the need to compare business-as-usual scenarios with a plausible scenario including the mitigation option, and the need to evaluate the potential cross-sectoral impact of an option.

86. The importance of integration across the sectors vulnerable to the impacts of climate change and the GHG emitting sector must be recognized. The importance of developing options in such a way as to avoid conflict amongst sectors needs to be recognized.

#### 2. Use of the UNFCCC guidelines

87. The UNFCCC guidelines do not provide guidance for assessment of GHG abatement options. For instance, they do not supply definitions or guidance for the estimation of incremental cost and GHG emissions reduction in relation to projects for financing. Neither do they provide guidance on the development of scenarios or on how Parties might incorporate the nationally developed mitigation measures into national planning processes aiming at sustainable development.

88. The recommendations of workshop participants for the improvement of the UNFCCC guidelines relating to abatement options are given in paragraphs 157 to 162.

#### D. <u>Cross-cutting issues</u>

#### 1. Education, training and public awareness

89. In accordance with Articles 4.1 (i), 6, and 12.1 (b), participants noted that all Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, are to communicate to the COP elements of information relating to:

(a) The promotion and facilitation of the following at national and, as appropriate, subregional and regional levels, so far as Parties are able and in accordance with national laws and regulations:

- (i) The development and implementation of educational and public awareness programmes on climate change and its effects;
- (ii) Public access to information on climate change and its effects;
- (iii) Public participation in addressing and responding to climate change and its effects; and
- (iv) Training of scientific and technical and managerial personnel;

(b) Cooperation and promotion, at the international level and, where appropriate, using existing bodies in:

- (i) The development and exchange of educational and public awareness materials on climate change and its effects; and
- (ii) The development and implementation of educational and training programmes including the strengthening of national institutions and the exchange or secondment of personnel to train experts in this field, in particular for developing countries, on climate change and its effects;

(c) A general description of steps taken, or envisaged, by a Party to implement the Convention.

## 2. Main issues

90. Participants noted that there is a lack of sufficiently trained scientific and technical personnel, as well as policy makers, in the field of climate change to effectively carry out Parties' obligations under the Convention.

91. They further noted that although needs vary from region to region, and country to country, there was general agreement on the need to strengthen educational and training institutions and structures at national and regional levels in the area of climate change.

92. African countries in general lack the capacity to integrate environmental issues, including climate change, into curricula at various levels of their educational systems. In addition to the need for basic education on climate change issues in general, many of these countries need training in the use of global climate models for vulnerability and adaptation assessment and to enhance local expertise and the knowledge base.

93. In Asia, some countries have already begun to integrate climate change or environmental issues into educational curricula, and they expressed the need to intensify this effort. Other countries need to begin this process. Some countries have groups of experts who can conduct training but need resources to sustain that capacity. Other countries in the region expressed the need to acquire basic skills for enhancing local expertise.

94. In the Latin America and the Caribbean region, most countries expressed the need to integrate climate change issues as well as concepts of sustainable development into the educational curricula of both the formal and non-formal sectors; however a number of them expressed the need for training in data collection and vulnerability and adaptation assessment at basic and advanced levels. Other countries in the region have indicated that they have already included climate change issues in their postgraduate curricula.

95. A number of Pacific island region countries have started training processes but need to sustain the capacities acquired and give additional emphasis to vulnerability and adaptation assessment. They all expressed the need to develop and/or increase local expertise and to strengthen the educational process that has begun.

96. The participants of the workshop noted the conclusions of the regional workshops held in 2000 and agreed that the guidance provided for the elaboration of national programmes relating to training and education is inadequate and needs to be improved for Parties' use in preparing their national communications.

97. Public awareness on climate change issues has been confirmed by most countries as an important tool in addressing climate change. Thus, creating public awareness is a continuous task that requires funds and expertise for the preparation, updating and dissemination of basic materials and information. For example, information from organizations such as the IPCC on local and regional impacts of climate change, and how communities, villages and countries are responding to these effects, need to be made available to the public at large through various media.

98. The participants highlighted the need to involve all major stakeholder groups in public awareness: business and/or the private sector, non-governmental organizations, community-based organizations and scientific and academic institutions and communities.

99. The participants agreed that there is a need to develop national initiatives in public awareness but recognized that regional initiatives, where appropriate, can be cost-effective means of information sharing since financial and technical support for this activity has been inadequate.

### Recommendations

100. After considerable discussion of issues, problems and constraints related to education, training and public awareness, participants made the following recommendations for addressing the above-mentioned concerns.

101. Financial and technical support for training programmes should address the need for scientific and technical competence as well as strengthen the overall effectiveness of training institutions.

102. There is a need for better coordination of educational and training programmes at the national, regional and global levels so as to maximize resources and avoid duplication.

103. National and regional centres of excellence should be supported to promote the creation of an effective process for exchange of information and experience and thus enhance both South-South and North-South cooperation.

104. Development of common methodologies and approaches for addressing training and educational needs of countries should allow for varying national and regional priorities.

105. Mechanisms should be developed for providing technical expertise, advice and information to developing countries within reasonably short timeframes.

106. At the international level, simplified materials that provide basic information on climate change, important recent findings by such organizations as the IPCC, information on regional and local impacts (to the extent such information is available), and information on practical steps which individuals, groups and institutions can take to respond to climate change should be prepared, periodically updated, translated into the official languages of the United Nations, and distributed.

107. National capabilities should be developed to help prepare public awareness materials on potential impacts of climate change at national and/or local levels.

108. The UNFCCC secretariat is encouraged to develop, maintain and periodically update a clearing house mechanism on education, training and public awareness materials. Parties are encouraged to support this effort by actively providing materials to the clearing house, in languages that can be understood by peoples who do not use the official languages of the United Nations.

109. Parties are further encouraged to support education, training and public awareness by assisting in the translation of important materials into the official languages of the United Nations. For example, Spain has translated many important materials into Spanish.

110. All important technical documents should be available in all the official languages of the United Nations. Less technical material should make maximum use of graphic approaches in order to help non-technical individuals to understand it.

111. The recommendations for the improvement of the UNFCCC guidelines relating to education, training and public awareness are included in paragraph 163.

## 3. Information and networking

112. The subject of information and networking was discussed by the workshop participants, who recognize that this is one of the essential ways in which national, regional and international experiences, expertise, skills and knowledge are shared between institutions, organizations and countries. Participants also pointed out that information and networking is often constrained by the lack of infrastructure, technical and human capacities and financial resources in developing countries.

113. In further discussion on information and networking, all non-Annex I countries expressed a desire to develop and/or enhance national, sub-regional and regional networking arrangements, as well as a need to improve systems for data collection and management in order to eliminate known information gaps.

114. The workshop participants also considered the findings and recommendations drawn from 50 submitted national communications from non-Annex I Parties and the regional workshops of the CGE. They noted that due to significant gaps that exist with respect to information and networking systems and arrangements within and between regions there is a need for hardware, software, and expertise to establish networking facilities for information exchange, and a need to strengthen mechanisms for improving information exchange among scientific and technical institutions that provide support to the national communications process.

115. The participants could not complete their discussions on this issue as there were other cross-cutting issues which required further deliberations; they therefore agreed to refer further work on the conclusions and recommendations for information and networking to the CGE for its consideration at its third meeting. The report of the third meeting of the CGE is contained in document FCCC/SBI/2001/3.

## 4. Support programmes

116. Workshop participants emphasized the importance of bilateral, multilateral and international activities and programmes which assist in the preparation of national communications by non-Annex I Parties.

117. The workshop participants noted the financial and technical support provided by the Global Environment Facility (GEF) and other bilateral support programmes for the preparation of national communications by non-Annex I Parties.

118. With respect to the coordination of support programmes, the workshop participants agreed that there seems to be some duplication of effort; significant needs still exist and new needs have been identified and there is therefore a need to better coordinate bilateral, multilateral and international support for the preparation of national communications.

119. The participants noted the important contribution made by the National Communications Support Programme (NCSP) in facilitating and supporting non-Annex I Parties in the preparation of their national communications. A number of its activities, such as: (a) the technical review of draft inventories, (b) preparation of technical materials for vulnerability and adaptation assessments, GHG inventories, and systematic observation, and (c) networking through technical coordinators could be significantly strengthened, to respond to the needs and recommendations expressed by countries in this report.

120. The participants agreed that further analysis of the support programmes and activities is required by the CGE if it is to fulfil its mandate relating to this issue, and they agreed to refer further work on this issue to the CGE for further deliberation at its third meeting. The report of the third meeting of the CGE is contained in document FCCC/SBI/2001/3.

## III. FINANCIAL AND TECHNOLOGICAL NEEDS AND CONSTRAINTS

#### A. Introduction

121. The participants noted that the preparation of national communications is a continuous process, and that capacities and institutional arrangements that have been put in place in the course of preparing the initial national communications must be sustained. In the review of information contained in the national communications of 50 non-Annex I Parties submitted to the secretariat, the following needs have been identified by non-Annex I Parties:

(a) Assistance in integrating climate change issues into national development planning;

(b) Enhancement of national programmes for education (formal and/or non-formal), training and public awareness in all areas of climate change;

(c) Continuation of existing assistance programmes;

(d) Enhancement of public awareness in academic and research institutions, and all areas of the society;

(e) Sharing of public awareness materials; development and dissemination of these materials in local languages;

(f) Further development of expertise and support for the preparation of plans to incorporate climate change issues into education;

(g) Strengthening of universities and research institutions to undertake climate change studies;

(h) Encouragement of regional information exchange among national, regional and international experts, intergovernmental organizations and non-governmental organizations;

(i) Establishing of hotlines and teleconferencing at a regional level to facilitate the work of national experts;

(j) Creation, use and maintenance of web sites;

(k) Building of national capabilities for climate change project development and management;

(1) Translation of relevant climate change material into the languages of the United Nations and dissemination to non-Annex I Parties. It was noted that recent submissions of non-Annex I Parties to the subsidiary bodies on the issue of capacity-building broadly reflect the concerns indicated in their national communications and in the reports of workshops conducted by the CGE. The concensus was that capacity-building should contribute to sustainable development. Its design and implementation should clearly result in the development, strengthening, enhancement and improvement of new and existing institutions, human resources, technology and equipment, knowledge and information, methodologies and practices. Furthermore, Parties noted that capacity-building through the participation and networking of developing countries should be carried out in an environment conducive to the achievement of sustainable development and the implementation of commitments under the Convention. Capacity-building therefore implies investing, financing, educating, training and networking, as well as developing, and providing support for, new and existing institutions, human resources, technologies and processes in developing countries.

123. In their review of the national communications of non-Annex I Parties regarding financial and technological needs, participants recognized that further support is needed for GHG inventories, abatement options, vulnerability and adaptation assessments (including identification of adaptation options), and education, training and public awareness.

124. A number of cross-cutting issues affect the ability of non-Annex I Parties to efficiently carry various activities and programmes for the preparation of national communications. These are data (collection, updating, processing, archiving, management); exchange of information between national, regional and international organizations and experts; capability in project development and management; and transfer of technology (hard and soft).

## B. National inventories of greenhouse gases

125. Adequate funding should be provided for the preparation and updating of inventories on a systematic basis within the context of second national communications.

126. Adequate resources should be made available for the collection of activity data, and the development of local emission factors where appropriate for key sources such as LUCF, agriculture, rice cultivation, livestock, fuel combustion and fugitive emissions in the context of the second national communication. For cost effectiveness, the criteria, to be considered jointly, for ensuring the funding may be the following: (a) when those emission factors are either not included in the IPCC Guidelines or are included but inappropriate for the national circumstances of a given country; (b) when emission estimates calculated using those emission factors constitute an important share of the total emissions.

127. Support should be provided for UNDP-GEF regional projects that are aimed at improving the ability to choose, process and archive activity data. Support should also be provided for the development of local and regional emission factors where appropriate and to assist the efforts made by the IPCC in developing the database on emission factors.

128. Appropriate funding should also be provided for the development and improvement of national energy balances.

129. The provision of financial and technical support to non-Annex I Parties for the creation, development and maintenance of national web sites to facilitate the sharing of information should be encouraged. The provision of financial assistance could be undertaken within the framework of multilateral and/or bilateral cooperation.

130. Capacity-building activities in GHG inventories should be focused on the improvement of the collection of activity data, and the development of emission factors and appropriate information management systems for archiving and updating inventory data, in all relevant sectors, including LUCF, agriculture, firewood and charcoal use.

131. The IPCC *Good practice guidance and uncertainty management in national greenhouse gas inventories* should be translated into the main languages of the United Nations used in the countries of the regions and appropriate training should be provided to the experts in charge of the preparation of the GHG inventories.

## C. Vulnerability and adaptation assessment

132. It is recognized that the current level of funding for vulnerability and adaptation assessment is inadequate and is not commensurate with the importance that non-Annex I countries place on this issue. There needs, therefore, to be a greater allocation of resources to vulnerability and adaptation assessments particularly in training, including the use of integrated approaches.

133. Multilateral and bilateral programmes that support the preparation of national communications need continued funding to enable continued support to non-Annex I Parties in preparing their national communications.

134. There is a need for information networks and efficient databases to enable countries to share experiences and to exchange data for vulnerability and adaptation assessments.

135. Financial and technical resources are required for pilot and/or demonstration adaptation projects.

136. Training in vulnerability and adaptation assessment is required at both basic and advanced levels, with a particular focus on the development and collection, use and application of methods and the interpretation of climate and impact model results.

137. The assessment of vulnerability and adaptation is a continuous process, and the staged approach to adaptation as contained in decision 11/CP.1 and its guidance to the GEF does not reflect the interactive nature of studies, policies and measures. Since the guidance to the GEF was first given, the issue of vulnerability and adaptation assessment has developed and/or evolved considerably; there is therefore a need to give additional guidance to the GEF relating to the stages of adaptation, based on recent experience.

## D. Abatement

138. The participants of the workshop agreed that the provision of adequate financial and technical support as well as capacity-building in such areas as institutional strengthening, human resource development, methodologies, data acquisition and management, technology assessment and networking, is a prerequisite for the adequate formulation and reporting of abatement options.

139. To meet the need for the exchange of experience in abatement assessment in all relevant sectors, such as carbon sequestration in forestry, energy efficiency, fuel switching and renewable energy technologies for GHG abatement in energy and transport, consideration should be given to the establishment of an electronic clearing house that provides information on abatement technologies. A cost estimation directory for the abatement technology system components should be developed and included in the clearing house.

140. Taking into consideration the technical work done by the NCSP, it is suggested that the programme should be continued and that better coordination should be ensured between this programme and others being implemented by bilateral agencies.

141. Training is required for the use of the GEF operational guidelines in the preparation of project proposals for abatement.

142. Financial and technical support should be provided for evaluation of the proposed GHG abatement options and development of scenarios for future energy supply and demand and emissions of greenhouse gases. Access to and development of expertise in the use of appropriate models such as LEAP, ENPEP and MARKAL need to be strengthened.

143. Further guidance should be provided to the financial mechanism of the Convention in order to ensure that funding is made available to promote implementation of the improved reporting as recommended for inclusion in the revised guidelines.

## E. Cross-cutting issues

144. Specific recommendations made for addressing concerns related to financial and technical support for education, training and public awareness include the following:

(a) Establishment and/or enhancement of national and/or regional centres of excellence for information exchange;

(b) Development of training materials for curricula purposes (formal and non-formal education);

(c) Development of common methodologies and approaches for training programmes;

(d) Provision o f programmes for training media practitioners to prepare updated materials on awareness;

(e) Enabling the UNFCCC secretariat to develop and maintain a clearing house mechanism on education, training and public awareness materials;

(f) Encouraging Parties to submit educational, training and public awareness material to the UNFCCC secretariat.

# IV. RECOMMENDATIONS RELATING TO THE IMPROVEMENT OF THE UNFCCC REPORTING GUIDELINES

145. In providing information regarding analytical and methodological issues, and technical problems and constraints in the preparation of national communications by non-Annex I Parties, the participants also made recommendations for improvement of the UNFCCC guidelines in the following areas and urged the CGE to take into consideration these recommendations in fulfilling its mandates contained in the annex to decision 8/CP.5.

## A. <u>National circumstances</u>

146. Parties should provide a description of their national and regional development priorities, objectives and circumstances, and how these circumstances constitute the basis on which they will address climate change and its adverse impacts. The description of these circumstances could be done under the following recommended headings as appropriate:

- (a) Government structure;
- (b) Population profile;
- (c) Geographic profile (hydrology, coastal zones, geology, etc.);
- (d) Climate profile;
- (e) Economic profile;
- (f) Energy;
- (g) Transportation;
- (h) Industry;
- (i) Mining;
- (j) Tourism;
- (k) Waste;
- (l) Agriculture and fisheries;
- (m) Forest;
- (n) Land-use;
- (o) Health;

- (p) Environment;
- (q) Education and research institutions;
- (r) Other circumstances, such as literacy rate.

147. Parties should provide a description of existing institutional arrangements, which are relevant to the preparation of the national communications on a continuing basis.

## B. <u>National inventories of greenhouse gases</u>

148. Non-Annex I Parties should apply the Revised 1996 IPCC Guidelines in the elaboration and in the reporting of the national GHG inventories.

149. Non-Annex I Parties should be encouraged to use, as appropriate and as far as possible, the IPCC *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*.

150. Table II of the UNFCCC guidelines should be replaced by IPCC summary table 7A as the basis for summary reporting of GHG emissions and removals.

151. Non-Annex I Parties should be encouraged to provide worksheets of the IPCC reporting format as an appendix to the GHG inventories in the national communications. Worksheets or disaggregated calculations should be provided, preferably in both electronic format and hard copy.

152. Non-Annex I Parties should be encouraged to use the IPCC notation keys (i.e.: NO, NE, NA).

153. Non-Annex I Parties should be encouraged, as far as possible, to report on HFC emissions.

154. Non-Annex I Parties should be encouraged, as far as possible, to estimate and report the  $CO_2$  fuel combustion emissions using both sectoral and reference approaches, and to explain any large differences between the two approaches.

#### C. Vulnerability and adaptation assessment

155. A separate chapter should be devoted to vulnerability and adaptation assessment within non-Annex I national communications.

156. A common format should be adopted for reporting of vulnerability and adaptation assessment. The common format for reporting vulnerability and adaptation assessment should include among other things:

- (a) Methodologies, including the scenarios used;
- (b) Results;
- (c) Constraints or difficulties encountered;

(d) Gaps;

(e) How the vulnerability and adaptation assessment is linked to national circumstances;

(f) The sectors being reported (where sectors are not applicable, this should be stated);

- (g) Future needs for vulnerability and adaptation assessment; and
- (h) Potential adaptation measures.

#### D. Abatement

157. The guidelines on abatement should encourage the use of appropriate tools. Although these tools may include a variety of models in some sectors, e.g. LEAP, ENPEP, MARKAL, the usefulness of simpler methods should not be overlooked.

158. Guidelines should be flexible enough to accommodate the different timescales that may be reflected in the national five-year planning horizons or fiscal years deviating from the calendar year.

159. There is a need for clear definitions and/or terminology of the sectors, units, indicators, parameters and country-specific assumptions used in the abatement analysis and reporting of mitigation options in the national communications. As far as possible, the IPCC definitions should be used.

160. When Parties report on the mitigation options, an indication of the status of progress (planning, ongoing, implemented) of such measures should be included.

161. The revised guidelines should contain the qualification that reporting on abatement options is voluntary for non-Annex I Parties and that inclusion of guidance on this matter is purely for the guidance of Parties who may wish to include this aspect in their national communication.

162. Existing guidelines and methodologies for abatement analysis should be used in revising the UNFCCC guidelines as appropriate.

#### E. Cross-cutting issues

163. Participants recommended that pursuant to Articles 6 and 12 (1)(b), non-Annex I Parties communicating information on their actions relating to education, training and public awareness in their national communications may present information on such aspects as:

(a) Existing programmes for promoting education, training and public awareness on climate change, including for example information on the awards of scholarships and other educational grants;

(b) Plans for developing such programmes if they do not yet exist;

(c) The efforts and achievements relating to the inclusion of climate change issues in the curricula of the different levels of the educational system;

(d) The focus and magnitude of training programmes;

(e) The focus and scope of public awareness programmes;

(f) The existence and expertise of resource or information centres;

(g) The nature and extent of public participation in climate change related processes;

and

(h) The needs for financial and technical support to address national concerns relating to education, training and public awareness.

#### Annex

#### Statement of the interregional workshop of the Consultative Group of Experts on National Communications from Parties Not Included in Annex I to the Convention (CGE)

The experts:

Recognize the important contribution made to the work of the CGE by the broad participation of 93 national experts nominated by 70 non-Annex I Parties from Africa, Asia and the Pacific, and Latin America and the Caribbean regions in the three regional workshops of the Consultative Group of Experts on Initial National Communications from non-Annex I Parties and in the interregional workshop;

Thank the governments of Panama, Mexico, Kenya and Thailand for hosting these workshops;

Thank the governments of the United States of America, Australia, Switzerland, Finland, Canada and Germany for the provision of funds for the organization of the workshops and meetings of the CGE;

Appreciate the assistance and guidance provided by the members of the CGE and the UNFCCC secretariat in conducting the workshops and in the preparation of the documents used for the workshops and the reports of the workshops;

Urge the CGE members to take into consideration the recommendations of the workshops and, in particular, those resulting from the interregional workshop, in fulfilling the tasks to be performed by the CGE in accordance with its mandates as contained in the annex to decision 8/CP.5.

- - - - -