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SUMMARY OF THE INTER-REGIONAL WORKSHOP OF THE CONSULTATIVE GROUP OF EXPERTS ON INITIAL NATIONAL COMMUNICATIONS FROM PARTIES NOT INCLUDED IN ANNEX I TO THE UNFCCC: 19-22 MARCH 2001

The Inter-Regional Workshop of the Consultative Group of Experts (CGE) on Initial National Communications from Parties not included in Annex I to the UN Framework Convention on Climate Change (UNFCCC) met from 19-22 March 2001, in Panama City, Panama. The CGE was established by decision 8/CP.5 with the aim of improving national communications for non-Annex I Parties. The CGE is composed of 24 experts, five from each non-Annex I region (Africa, Asia, and Latin America and the Caribbean), six Annex I Party experts, plus three experts from regional organizations.

The workshop was organized by members of the CGE in collaboration with the UNFCCC Secretariat and the National Authority of the Environment of Panama (ANAM) with the main objective to provide advice to the members of the CGE in performing the tasks set out by paragraph 5 of decision 8/CP.5. The workshop aimed to pull together conclusions and recommendations of three regional workshops held in 2000 in order to provide specific recommendations on improving the national communications of non-Annex I Parties to be included in the review of the UNFCCC guidelines, annexed in decision 10/CP.2. The workshop also aimed to: discuss the purpose of the work of the CGE; provide an opportunity to share experiences between regions on the preparation of national communications; strengthen the network of the regional groups; and provide an opportunity to discuss the different elements comprising the national communications.

Four working groups discussed the outcomes from the regional workshops on: the preparation of greenhouse gas inventories; vulnerability and adaptation (V&A) assessments; identification of greenhouse gas abatement options; and cross cutting issues, including education, training, public awareness; information and networking. The working group discussions resulted in draft recommendations for the review of the UNFCCC guidelines on preparing non-Annex I national communications. This will be presented by the CGE for consideration at COP-

7, scheduled to be held from 29 October to 9 November 2001, in Marrakech, Morocco. The workshop was followed by two days of meetings of the CGE.

A BRIEF HISTORY OF THE UNFCCC AND THE KYOTO PROTOCOL

Climate change is considered one of the most serious threats to the sustainability of the world's environment, human health and well-being, and the global economy. Mainstream scientists agree that the Earth's climate is being affected by the build-up of greenhouse gases, such as carbon dioxide, caused by human activities. Despite some lingering uncertainties, a majority of scientists believe that precautionary and prompt action is necessary.

The international response to climate change took shape with the development of the United Nations Framework Convention on Climate Change (UNFCCC). Adopted in 1992, the UNFCCC sets out a framework for action aimed at stabilizing atmospheric concentrations of greenhouse gases at a level that would prevent anthropogenic (human-induced) actions from leading to "dangerous interference" with the climate system. The UNFCCC entered into force on 21 March 1994, 90 days after the receipt of the 50th ratification. To date, it has

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received 186 instruments of ratification, acceptance, approval or accession from States. Since it entered into force, six meetings of the Conference of the Parties (COP) have taken place, as well as numerous workshops and meetings of the UNFCCC's subsidiary bodies – the Subsidiary Body for Implementation (SBI) and the Subsidiary Body for Scientific and Technological Advice (SBSTA).

THE KYOTO PROTOCOL: The *Ad Hoc* Group on the Berlin Mandate, established by COP-1, met between 1995 and 1997 to reach agreement on a further step in efforts to combat climate change. Following intense negotiations, delegates to COP-3, which was held in Kyoto, Japan, in December 1997, agreed to a Protocol to the UNFCCC that commits developed countries and countries making the transition to a market economy to achieve quantified targets for decreasing their emissions of greenhouse gases. These countries, known under the UNFCCC as Annex I Parties, committed themselves to reducing their overall emissions of six greenhouse gases by at least 5% below 1990 levels over the period between 2008 and 2012, with differentiated targets for most of these countries. The Protocol also provides the basis for three mechanisms to assist Annex I Parties in meeting their national targets cost-effectively – an emissions trading system, joint implementation (JI) of emissions-reduction projects between Annex I Parties, and a Clean Development Mechanism (CDM) to encourage joint projects between Annex I and non-Annex I Parties.

While delegates in Kyoto agreed to these emissions reductions targets and methods, it was left for subsequent meetings to decide on most of the rules and operational details that will determine how these cuts are achieved and how countries' efforts are measured and assessed. Although many countries have signed the Protocol, the majority is waiting until these operational details are negotiated before deciding whether or not to ratify. To enter into force, the Protocol must be ratified by 55 Parties to the UNFCCC, including Annex I Parties representing at least 55% of the total carbon dioxide emissions for 1990. To date, only 32 Parties have ratified the Protocol.

THE BUENOS AIRES PLAN OF ACTION: The Fourth Conference of the Parties (COP-4) met in Buenos Aires, Argentina, in November 1998, to set out a work schedule for reaching agreement on the operational details of the Protocol and for strengthening implementation of the UNFCCC itself. This work schedule was outlined in a document called the Buenos Aires Plan of Action. The critical deadline under the Plan of Action was COP-6, where Parties were to attempt to reach agreement on a package of issues. Critical Protocol-related issues needing resolution included rules relating to the mechanisms, a regime for monitoring Parties' compliance with their commitments, and accounting methods for national emissions and emissions reductions. Rules on crediting countries for removing carbon from the atmosphere through planting trees, and possibly other measures, were also to be addressed. Issues under the UNFCCC requiring resolution included questions of capacity building, the transfer and development of technology, and assistance to those developing countries that are especially vulnerable to the adverse effects of climate change or to actions taken by industrialized countries to combat climate change.

PREPARATIONS FOR COP-6: COP-6 was preceded by numerous formal and informal meetings and consultations held during 1999 and 2000. The UNFCCC subsidiary bodies held their tenth sessions in Bonn, Germany, from 31 May-11 June 1999, and began the formal process of fulfilling the Buenos Aires Plan of Action. This work was continued at COP-5 and at the eleventh sessions of the subsidiary bodies, held in Bonn from 25 October-5 November 1999. During the first few months of 2000, several UNFCCC technical workshops on key issues under the Plan of Action were held to assist

the process leading to COP-6. Work resumed at a formal level with the twelfth sessions of the UNFCCC subsidiary bodies, held from 12-16 June 2000, in Bonn, and preceded by one week of informal meetings. At this meeting, participants developed negotiating text on critical issues such as the mechanisms and compliance.

SB-13 PART I: Informal consultations and workshops were held during July and August 2000, followed by the first part of the thirteenth sessions of the subsidiary bodies (SB-13), held from 11-15 September 2000 in Lyon, France, and again preceded by a week of informal meetings. During the informal meetings and the first part of SB-13, delegates discussed text for decisions covering a range of technical and political issues, with the aim of preparing text for a comprehensive agreement at COP-6.

Many delegates and observers at SB-13 Part I expressed concern at the slow progress and significant amount of work that remained for delegates at The Hague. Political positions on the key issues remained entrenched, with little indication of willingness to compromise or move forward. While negotiating text emerged on the key elements of the Plan of Action, significant disagreements remained.

INTERSESSIONAL CONSULTATIONS AFTER SB-13 PART I: Several informal meetings and consultations were held following SB-13. These included consultations on Articles 5 (methodological issues), 7 (communication of information) and 8 (review of information), land-use, land-use change and forestry, compliance, mechanisms, adverse effects, and least developed countries (LDCs), as well as informal high-level consultations held in early October and chaired by Jan Pronk, the Dutch Environment Minister and President-designate of COP-6. These meetings resulted in some further progress. However, with such a complex array of political and technical issues on the table and an emphasis on achieving agreement on the entire "package" of issues under negotiation, many observers prior to COP-6 suggested that accommodating all countries' interests and aims could prove difficult.

COP-6: COP-6 met in The Hague, the Netherlands, from 13-25 November 2000. During the first week, the resumed SB-13 reconvened and concluded work by adopting a number of draft conclusions containing text for decisions by COP-6. However, much of the text transmitted by the subsidiary bodies to the COP lacked complete agreement by delegates.

During the second week, COP-6 President Pronk attempted to facilitate progress on the many disputed political and technical issues by convening high-level informal Plenary sessions to address the key political issues, which he grouped into four "clusters" or "boxes," as follows: (a) capacity building, technology transfer, adverse effects and guidance to the Global Environment Facility (GEF); (b) mechanisms; (c) land-use, land-use change and forestry; and (d) compliance, policies and measures, and accounting, reporting and review under Articles 5, 7 and 8.

Ministers and other senior negotiators convened in four groups to negotiate these clusters in an attempt to reach consensus. However, toward the end of the week negotiations appeared stalled and President Pronk distributed a Note containing his proposals on key issues in an attempt to force a breakthrough that would lead to consensus. After almost 36 hours of intense talks on the President's proposals, negotiators did not achieve a breakthrough, with complementarity, compliance and land-use, land-use change and forestry proving to be particular sticking points. Delegates agreed to suspend COP-6 and expressed a willingness to resume their work in 2001.



REPORT OF THE WORKSHOP

On Monday, 19 March, Emilio Sempris, ANAM, opened the workshop. He welcomed participants and stressed the importance of this process for non-Annex I Parties that are preparing their national communications. He highlighted the opportunity that the workshop provided to review countries' existing national climate change programmes and identify problems and analytical and methodological tools required to prepare the national communications. He added that the workshop could help experts share and exchange experiences on the preparation of greenhouse gas inventories and find new formulas for the preparation of national communications.

Martha Perdomo (UNFCCC Secretariat) described the activities of the non-Annex I implementation sub-programme and the regional workshops held in Mexico, Thailand and Kenya in 2000. She highlighted the programme's mandate to provide specific assistance to non-Annex I Parties on the implementation of the Convention. Jessica Faieta, UNDP Panama, described the support provided to Panama to generate their first national communication, which contains a greenhouse gas inventory, mitigation options and an initial evaluation of the vulnerability to the adverse impacts of climate change. She explained that the national communication would serve as an indication of the implementation of the UNFCCC. She highlighted continued UNDP support for developing countries' efforts to undertake measures for the implementation of the Convention.

Gonzalo Menendez, Deputy Administrator of ANAM, recalled the goals of the UNFCCC and the commitments of the international community to adopt preventive actions and adaptation measures, including the preparation of national communications. He stressed the need of developing countries to create national capacities to achieve their commitments and sustainable development. He noted that this workshop could be useful to reduce scientific uncertainties on climate change and to use the results and lessons from previous regional experiences.

PRESENTATIONS OF COUNTRIES' EXPERIENCES ON THE MAIN ISSUES

On Monday, 19 March, participants heard presentation of countries' experiences in preparing specific sections of their national communications, followed by discussions.

GREENHOUSE GAS INVENTORIES: Clifford Mahlung (Jamaica) presented Jamaica's experience in preparing its national greenhouse gas inventory. He outlined the problems and constraints related to data availability for the energy and industrial, waste management and land use change and forestry sectors. For the energy and industrial sectors, he said Jamaica had good activity data on fuel consumption, but this data was not reported by sector. He outlined several strengths and constraints found in the estimation of the activity data for this sector, including for the estimation of transport data and biomass data, lime production, soda ash and asphalt. He indicated that emissions factors were well defined for petroleum products, but not others. For the waste management sector, he indicated that the data were inadequate. He also underscored that there were insufficient data for the land use change and forestry sector. He concluded by summarizing several measures to improve the data, including the creation of an Office of Utilities Regulation, a revision of the Petroleum Quality Control Act Regulation of 1999, the digitization of Jamaica's Airport Authority database, the implementation of a national solid waste programme, the establishment of a national solid waste management authority, and the establishment of a forest land-use data bank.

Abdelkrim Ben Mohamed (Niger) gave a presentation on the key problems during the preparation of Niger's greenhouse gas inventory. He underscored the importance of considering national circumstances and considered the Intergovernmental Panel on Climate Change (IPCC) methodology and particular circumstances to be the main barriers. He identified problems with accessing data and underscored the problem with data in unsuitable formats for the estimation of emissions. He said the IPCC methodology was lacking in specific situations where there was no provision to account for or estimate certain types of data. He indicated the importance of suspended particulate matter in emissions estimates for West Africa, and underscored the need to account for this in the inventory. He emphasized the importance of improving national communications and of the participation of non-Annex I Parties in the IPCC scientific assessments. He concluded by noting the existence of local expertise in the field of greenhouse gas emissions.

VULNERABILITY AND ADAPTATION ASSESSMENT:

Yeshey Penjor (Bhutan) spoke on V&A assessments. He said it was too early to focus on science and modern technology for the purpose of these assessments. He said factors contributing to vulnerability in Bhutan are related to, *inter alia*, the impacts of climate change, such as glacier melting, linked to forest and biodiversity degradation, flash floods, and an increase in vector-borne diseases. He underscored the importance of ensuring the implementation of adaptation policies and stressed the need for public awareness and strategic development planning. He said the capacity to understand and address climate change is very important for planning for poor countries. He concluded that in the developing country perspective, institutional strengthening, capacity building and financial support are important elements for reducing vulnerability.

GREENHOUSE GAS ABATEMENT ISSUES: Kadio Aho-sane (Côte d'Ivoire) discussed greenhouse gas abatement issues. He highlighted that his country's forest had diminished from 13 million acres in 1960 to 2.1 million acres in 2000, and indicated the importance of this fact for emissions abatement. He outlined programmes and measures implemented in the industry, energy, forestry and agriculture sectors aimed at reducing emissions. He listed a number of identified constraints, including: lack of appropriate knowledge of climate change issues, including national experts; lack of relevant institutions and facilities; lack of appropriate database for studies in this domain; inappropriate emission factors as far as localities are concerned; and lack of available documents related to climate change issues in languages other than English. He concluded that a number of challenges that influence the preparation of national communications remain, such as the need to: understand and address climate change issues; develop climate change databases; develop country or regional emissions factors; improve the technical approach; maintain and expand national capacity; and raise public awareness and promote the participation of stakeholders.

FINANCIAL AND TECHNICAL SUPPORT: Emilio Sempris (Panama) described his country's work on inventories, V&A and mitigation options. On greenhouse gas inventories, he described work done on areas such as energy, industrial processes, solvents, agriculture, land use and forests and waste management. He highlighted several areas where further work remains to be done including: the lack or unavailability of data, and the standardization of information gathering; the need to strengthen the capacities of different sectors to record their greenhouse gas emissions and to review the information collected; the lack of IPCC guidelines on solid waste management emissions; and the financial and technical issues for the preparation of the assessment. On mitigation options, he noted that the preliminary



study does not represent the real situation due to insufficient capacities and data, and suggested strengthening capacity building and mechanisms for institutional coordination. He concluded by underlining the need to improve the institutional framework for the implementation stage, strengthen capacities and increase database information, involve the political level at the beginning of the process, and to create a model suitable to country characteristics.

In the ensuing discussion, participants discussed methodological issues related to: gathering activity data and the estimation of greenhouse gas emissions; V&A assessment; climate baseline preparation; and institutional frameworks and capacities. The BAHAMAS said climate scenarios are not the core of V&A assessment. He suggested that more political will is needed to solve technical problems associated with the preparation of the "climate baseline." PANAMA highlighted the lack of data and access for public participation as key problems in the preparation process. He suggested incorporating social scientists into the process. COLOMBIA said the preparation process is not a priority within governments and noted the amount of time spent on building local capacity. BOLIVIA stressed the need for more work on adaptation, particularly the development of a methodology to formulate strategies that incorporate economic value.

OVERVIEW OF IPCC WGII TAR AND REPORTS OF REGIONAL WORKSHOPS

On Monday afternoon, 19 March, participants were given an overview of the IPCC Third Assessment Report (TAR) and of the regional workshops CGE for Africa, Asia and Latin America and the Caribbean. Discussion addressed the relevance of the IPCC findings to the work of the CGE.

OVERVIEW OF IPCC TAR REPORT: Graham Sem (UNFCCC) presented an overview of the IPCC Working Group II (Impacts, Adaptation and Vulnerability) TAR, explaining that the report used observations and model projections on global surface temperature increase and sea level rise, warming variation by region, with increases and decreases in precipitation and changes in variability of climate. He outlined the contents of the chapters, including: an overview of impacts, adaptation and vulnerability to climate change; methods and tools; development and application of scenarios; impacts on systems such as water resources, ecosystems, coastal zones and marine ecosystems, human settlements, energy and industry, insurance and other financial services and human health; and the regional focus.

Among the emerging findings, he highlighted, *inter alia*: the effect of regional climate changes and temperature increases on many physical and biological systems; the effects of floods and droughts, demographic shifts and land-use changes in some human systems; the irreversible damage of some natural systems due to their limited adaptive capacity and according to the magnitude and the rate of climate change; the sensitivity and vulnerability of some areas to climate change varying with geographic location, social, economic and environmental conditions; and projected adverse impacts, such as the reduction in crop yields, decreased water availability in water scarce regions, increase in number of people exposed to vector-borne diseases and water-borne diseases and heat stress, and increase in energy demand. He also noted that climate change would bring some beneficial impacts and highlighted the need to quantify the risks and possibly irreversible impacts of projected changes in climate extremes.

Sem presented the conclusions highlighting: the need for V&A assessments; the adaptation to climate change as a key feature of development plans; the vulnerability of developing countries, particu-

larly the least developed countries, to adapt to climate change and other stresses; and the need to complement mitigation efforts with adaptation.

In the ensuing discussion, participants exchanged ideas on several issues of the report. SENEGAL suggested the improvement of national authorities involvement in the work of the IPCC. The NETHERLANDS noted that the TAR does not mention costs of adaptation. THAILAND recalled that the IPCC provides guidelines for the cost of impacts. AUSTRALIA suggested analyzing how climate variability affects human systems in the future. ANTIGUA AND BARBUDA noted the difficulties posed by dividing the process into different stages, particularly for funding required activities, and suggested addressing uncertainty and adaptation strategies and integrating adaptation into development plans. EGYPT suggested devoting more attention to projections on increased energy requirements. EL SALVADOR underscored the importance of V&A assessment for developing countries. TANZANIA highlighted the methodologies or tools to assess V&A and suggested analyzing their weaknesses, since these may render them ineffective.

OVERVIEW OF REPORTS FROM REGIONAL WORKSHOPS: Philip Weech (The Bahamas) presented a report on the methodological, analytical and technical issues related to the greenhouse gas inventory identified in the CGE regional workshops held in 2000 in Mexico City, Bangkok and Nairobi. On inventories, he said most Parties had successfully completed them and most work had been based on the 1996 IPCC Revised Guidelines. He said activity data for some sectors was unreliable and the bottom-up approach was problematic due to problems with data sources. He indicated that emissions factors needed to be developed for several sectors. On financial and technical support, he stressed the importance of: access to information; public awareness programmes; translation and dissemination of good practice guidance; and regional networks for information and expertise sharing. On V&A assessment, he stressed: the inadequacy of UNFCCC guidance and the need for this to be clearly mentioned in the revised guidelines; a general agreement on the most vulnerable sectors; the lack of cross-sectoral assessments; the need for capacity building and financial and technical support; and the importance of research and systematic observation and networking and information dissemination and sharing. He underscored the need for integrating V&A assessment with national planning and the utility of being able to interpret in a national context. On abatement options, he explained that this was an on-going process. He outlined the methodology applied and the sectors included, and stressed the need for capacity building and financial and technical support for abatement options. In conclusion, he outlined some remaining barriers, such as inadequate funds for meeting the reporting requirements and the need for enhanced education and training for the preparation of national communications. He stated that, although priorities were different in the different regions, the problems were essentially the same.

PRESENTATIONS OF EXISTING ACTIVITIES TO SUPPORT NATIONAL COMMUNICATIONS

On Tuesday, 20 March, the UNFCCC Secretariat and the UNDP National Communications Support Programme (NCSP) gave presentations of the current activities being undertaken by programmes in support of the preparation of national communications. Participants engaged in a discussion after the presentations.

Rodrigo Chaparro, UNFCCC Secretariat, presented a review of existing activities and programmes to support the preparation of national communications. The Secretariat compiled the review in response to a request by the CGE. He said the Secretariat had



attempted to identify such on-going programmes and activities through a review of documents compiled for reporting on on-going capacity-building activities, as well as through the Internet and responses to a questionnaire that examined various aspects of identified programmes. In conclusion, he highlighted remaining questions related to these programmes including: how useful the activities and programmes had been in supporting the preparation of national communications; what lessons had been learned; and how the coordination of the programmes could be improved.

Yamil Bonduki, NCSP, gave an overview of the current status and future activities of the NCSP in 2001-2003. He outlined the main activities that were covered by the NCSP, including thematic and regional workshops, a help desk facility for technical assistance and information, and the implementation of GEF enabling activities. He said the objectives for the next phase of the NCSP included programmes addressing technology transfer, systematic observation, inventories, abatement and adaptation. For each area, one output would be the training of experts. For technology transfer, he suggested the additional expected outputs were a workbook containing a practical framework for assessing and reporting technological needs. For systematic observation aimed at the identification of long-term solutions for improving networks and ensuring linkages with V&A, he indicated that the output would be workshop materials for reports. For inventories, with the objective to build capacity for data archiving, updating and management, he said the outputs would be two regional proposals and generic material for improving inventories. The abatement programme would be aimed at improving the analysis by developing a common framework and developing or identifying tools for baselines, costing and screening, and the outputs would be such a framework and tools. For adaptation, the objective would be to prepare a framework for developing adaptation strategies and to develop and identify tools for this framework. He indicated that the next steps would therefore include securing funding for the next phase of the NCSP, identifying potential regional partners and coordinating with countries on follow-up activities.

In the ensuing discussion, participants addressed the issue of who would be responsible for coordinating all of the programmes aimed at supporting the preparation of national communications. The NETHERLANDS said there would be a second phase of his country's climate change support assistance programme and sought advice on how to select the countries on which to focus. The Secretariat clarified that it was the mandate of the CGE to recommend how these programmes could be coordinated in the most effective way. ANTIGUA AND BARBUDA underscored the potential to have a joint work programme between the different programmes to pool efforts and funding.

PRESENTATIONS OF THE MAIN METHODOLOGICAL AND TECHNICAL ISSUES, PROBLEMS AND CONSTRAINTS, SOLUTIONS AND BEST PRACTICES

On Tuesday, 20 March, CGE members presented an overview of the results from the regional workshops on the four themes of greenhouse gas inventories, V&A assessment, greenhouse gas abatement issues, and education, public awareness and research and systematic observation.

GREENHOUSE GAS INVENTORIES: Ayite-Lo Ajavon (Togo), Chair of the CGE, discussed national greenhouse gas inventories. He described both the national communications submitted to the UNFCCC Secretariat and the results of regional discussions on their process of preparation. He noted that reporting countries fulfilled their duties to report greenhouse gas inventories following the UNFCCC guidelines. On the methods used, he said all Parties followed the 1995

and 1996 IPCC Guidelines to compile their national greenhouse gas inventories data and some Parties used the Revised 1996 IPCC guidelines. Regarding gases reported, he noted that Parties provided information on the most significant greenhouse gas emission source and sink categories, including carbon dioxide (CO₂) emissions from fuel combustion and industrial processes, CO₂ removals from LULUCF, methane emissions from agriculture and waste and nitrous oxide from fuel combustion. He highlighted the lower degree of reporting from some least developed countries, noting that their overall greenhouse gas emissions are relatively low. He said some Parties reported qualitative information on additional gases, as encouraged by the UNFCCC guidelines, including fully fluorinated compounds and estimated emissions from international aviation and marine bunkers.

On tools, he noted that Parties reported more information than the minimum requested and used more comprehensive tabular formats. He highlighted the transparency of the inventories containing worksheets with outlines of detailed calculations for estimated greenhouse gas emissions and numerical information on aggregate emission factors. He noted that all Parties identified problems in preparing their national inventories, including: the lack of activity data and emission factors; different emission estimates for the same sector or source categories; and some inconsistencies between the UNFCCC guidelines and the Revised 1996 IPCC Guidelines regarding disaggregated reporting of the greenhouse gas emissions by sources and removals by sinks. On institutional arrangements, he noted that Parties reported that these consisted of the establishment and operation of inter-institutional committees or agencies, or teams of national experts from different sectors, usually coordinated by a leading national institution. He highlighted the reporting of technical and financial support from the GEF as a key element in the preparation of inventories.

During the ensuing discussion, participants exchanged views on issues including specific regional conditions, such as local emissions factors that influence the preparation of national communications.

IMPACTS, VULNERABILITY AND ADAPTATION

ASSESSMENTS: Isabelle Niang-Diop (Senegal) described the achievements in the initial national communications under the theme of V&A assessment. She explained that all Parties presented V&A assessments, and that Parties addressed sectors such as agriculture, water resources, coastal zones and fisheries, terrestrial ecosystems and human health.

On the methodologies, she indicated that most Parties used different models to analyze diverse climate change scenarios, without including the analysis of socioeconomic scenarios. She noted that only half of the initial national communications included integrated assessments and the vulnerability of non-Annex I Parties to climate change. She highlighted the main constraints to the realization of V&A, including: the non-availability of technical material in all UN languages; the difficulty of distinguishing between climate change and natural variability; the lack of regional scenarios; the underestimation of extreme events; the general lack of material and software, and the adaptation of these tools to national conditions; and the lack of methodologies to assess socioeconomic data. She said other constraints reflected weaknesses of human resources, lack of appropriate institutions and infrastructure to collect and maintain data, limited funds, lack of regional cooperation, lack of peer review of the documents, and political instability.

On the needs expressed, she noted need to have a continuous process and regional and subregional studies. She said more work remains to be done on integrated assessments, socioeconomic assessments and the identification and costing of adaptation options. She



highlighted specific needs on methodological issues, including: development or adaptation to the national context; improved access; research development in the field of adaptation; improved V&A; a better representation of national experts in the IPCC; vulnerability indicators; and participation in training and exchange workshops.

Other needs reported included: enhancing human resources and institutional capacities; using a decentralized approach, as appropriate; training on GEF procedures; involving university and research centers; raising policy makers' awareness on climate change issues; involving stakeholders in this process; and developing national research centers. She concluded that better guidelines are needed to give an adequate framework for reporting and assessment, to allow for a comparison of vulnerability assessments, and to integrate climate change into national planning.

In the ensuing discussion, participants raised issues such as GEF involvement in this process. The UNFCCC Secretariat explained that the GEF should follow the CGE recommendations. ECUADOR suggested taking into account regional aspects of adaptation while fulfilling the CGE's mandate to improve the process of preparation of national communications. PANAMA underscored the role of universities in providing continuity to the preparation process and suggested adopting guidelines to foster linkages with the institutional infrastructure of Parties.

GREENHOUSE GAS ABATEMENT ISSUES: Vute Wangwacharakul (Thailand) presented an overview of the reported greenhouse gas abatement options. He noted that all Parties had reported some information about abatement, but that the comprehensiveness of this information and the methodologies applied varied. He outlined some gaps in the reporting relating to methodological and data issues, including: problems with generation of scenarios; estimation of future emissions; evaluation of abatement options and measures; availability of data and accessibility to models; and the limited exchange of information and experiences. He highlighted that good efforts had been made despite the fact that there was no requirement to report this information, and said capacity, resources, databases and information were lacking. He indicated that possible improvements in methodological issues include the use of socioeconomic scenarios, economic tools for cost-benefit analysis, and information networking and exchange on a regional basis. In conclusion, he stressed the need for human resource and institutional development, financial assistance and access to technologies.

EDUCATION, PUBLIC AWARENESS AND RESEARCH AND SYSTEMATIC OBSERVATION: Julia Martinez (Mexico) discussed the reported information on education, public awareness and research and systematic observation. She reported that the 49 national communications included in the analysis all faced the same constraints on the whole. On public awareness, she highlighted the challenge of raising awareness on climate change in non-Annex I Parties. She outlined recommendations for how to achieve awareness, such as strengthening and, where appropriate, building national capacities to develop public awareness materials. On education and training, she underscored the need to maintain the experts once trained for the purpose of the preparation of the next national communication and the translation of materials into all UN languages. She recommended that training programmes should be country driven and coordinated at all levels, and that South-South cooperation be enhanced. On research and systematic observation, she noted the consensus among Parties that Annex I Parties should be available for information exchange and technical cooperation, in order to advise on the collection of the needed data, including how to manage and analyze it. She noted that

national communications could enhance the process of establishing observation programmes and that the guidelines should mention research and systematic observation. In conclusion, she outlined four aspects to be addressed: the status of monitoring and networks; national involvement in international and regional programmes; listing of national institutes and experts active in the field of climate change; and the additional needs for systematic observation.

In the discussion, participants highlighted areas of concern. PANAMA noted that national communications must strengthen education through the dissemination of the information contained in them, and similarly that education at all levels of society will contribute to supporting and strengthening the information. GERMANY cautioned against placing a strong emphasis on the models considered in the abatement presentation, since the quality of the results depends on the quality of the input data. She stressed that the advantage of simpler approaches to obtaining the results is that they can be understood more easily. ANTIGUA AND BARBUDA noted that the goal for non-Annex I Parties is sustainable development, and that Annex I Parties are under different obligations regarding abatement. THAILAND underscored the consideration of national circumstances. AUSTRALIA said the Convention does not define research and systematic observation and pointed to the need for this in relation to V&A assessment studies.

CROSS CUTTING ISSUES: Networking and Information: Philip Weech (The Bahamas) presented on cross-cutting issues raised in the regional workshops. He explained that national communications do not exist in isolation and reflect a conscious decision by Parties. He noted that many concerns resulted from the regional workshops, including issues such as coordination and networking, institutional strengthening and enabling activities support programmes. He highlighted barriers for institutional strengthening, including the lack of national capacity and continuity of project management teams; weak national frameworks; and lack of capacity to implement climate change projects. Among the main findings, he said that Parties had reported: interest in regional, subregional and national networking; limited human and financial resources; and underdeveloped systems for data collection, processing and maintaining systems.

He concluded that the CGE could recommend that: the GEF and other donor organizations be encouraged to direct resources to enhance Internet access in developing countries; the UNFCCC Secretariat, the IPCC and other organizations make climate-related information and services available through modern communication technologies; and donor organizations and in-country institutions provide increased training in the use of the Internet and other cutting-edge information technologies, as appropriate to the circumstances of individual countries.

National Circumstances and Planning: George Manful (UNFCCC Secretariat) presented on national circumstances in the process of preparation of national communications. He highlighted that basic information, development priorities, objectives and circumstances, and sustainable development and planning were the main issues reported. On basic information, he noted that Parties reported issues such as size and population and the level of development. He explained that Parties also reported information on, *inter alia* geographical characteristics, temperature zones, biodiversity and rainfall, and their economic background, including gross domestic product (GDP) and energy intensity of production.

On development priorities, objectives and circumstances, he said Parties reported on issues such as: food security, including share of agriculture and GDP, agricultural practices, artisanal and commercial



fishing, and livestock; energy demand and supply; the size of forests areas; the contribution of mining sector and tourism to GDP; transport; water resources, embracing surface and underground water, hydro-power generation and agriculture; and other sectors such as coral reef preservation, pearl cultivation, financial and banking sector, waste management and sanitation.

On sustainable development and planning, he noted that Parties reported on the: integration of climate concerns into national planning; development of national sustainable plans; establishment of specific institutional arrangements; promotion of active stakeholder participation; and enhancement of appropriate legislation. He concluded that sustainable development and national planning should go hand-in-hand, and governments should develop appropriate framework to address these concerns.

In the ensuing discussion, participants exchanged ideas on national circumstances. NIGER suggested including the establishment of synergies among environmental conventions as a cross cutting issue. PANAMA noted how traditional indicators were changed by climate change and suggested creating new indicators including socio-economic and ecological factors. BOLIVIA suggested that the working groups emphasize the link between the needs identified at regional workshops and the information that would be requested in the IPCC TAR, including new guidelines and issues such as health risks, human security and food security. NCSP suggested linking information provided by Parties across other sections of the national communications to balance the reports. AUSTRALIA suggested recommending the development of better guidelines. VENEZUELA said that information on national circumstances should be used to analyze different scenarios of different sectors and be discussed at national workshops.

WORKING GROUPS ON NON-ANNEX I NATIONAL COMMUNICATIONS

Four working groups met from Tuesday afternoon to Thursday morning to discuss greenhouse gas inventories; V&A assessment; greenhouse gas abatement issues; and cross-cutting issues. The working groups were chaired by the CGE members who had made presentations on each of these issues, and a rapporteur was assigned to each group. The four groups used different approaches for their work, but all focused on discussions based on the presentations heard on Monday and Tuesday morning. Coverage was limited to the working groups on V&A assessment and cross-cutting issues.

GREENHOUSE GAS INVENTORY WORKING GROUP:

This working group was chaired by Ayite-Lo Ajavon, Chair of the CGE. The working group aimed to provide recommendations to the CGE on which experiences during the preparation of the greenhouse gas inventory should be highlighted for inclusion in the UNFCCC guidelines for the preparation of non-Annex I national communications. The working group considered: analytical, methodological and technical issues in the preparation and reporting of greenhouse gas inventories, including best practices and lessons learned; data collection and the development of local and regional emission factors and activity data, particularly in the energy and land-use change and forestry sectors; relevant activities including the development of local and regional emissions factors and activity data related to inventories; difficulties encountered in the use of the 1996 Revised IPCC Guidelines; and difficulties encountered in the use of the section of the guidelines contained in the annex to decision 10/CP.2, which relate to inventories.

On institutional and funding issues that influence the preparation and reporting of GHG inventories, including data collection and development of emissions factors, Parties recommended to, *inter alia*:

- provide appropriate funding in the context of the second national communications to ensure the continuity and sustainability of the inventories;
- develop and strengthen institutional capacity of coordinating agencies of research activities, encouraging the use of regional expertise and the training of those experts;
- facilitate collaboration and coordination among national institutions;
- create regional networks to share inventory information among experts and institutions;
- develop processes to facilitate information exchange;
- provide financial and technical support for the creation, development and maintenance of national web sites within the framework of multilateral and bilateral assistance;
- develop an appropriate institutional framework for the collection, updating and management of data;
- provide adequate funding for enabling activities for the collection of activity data and the development of local emissions factors; and
- support the development of regional projects.

On technical issues for improvement of data collection and development of local and regional emission factors and activity data, Parties recommended encouraging the use of activity data from regional organizations if available and/or appropriate and supporting the creation and development of a database on emissions factors by the IPCC.

On difficulties encountered in the use of the 1996 Revised IPCC Guidelines, Parties approved recommendations to: urge the IPCC in the future guideline revision to better reflect specific conditions and circumstances of non-Annex I parties, in particular in the land-use change and forestry, energy and agriculture and waste sectors; call upon the IPCC in the future guideline revision to take better account of the relevant literature in languages other than English and appropriate literature; translate the IPCC good practice guidelines into the six UN languages; and provide appropriate training for experts.

On difficulties encountered in the use of the section of the guidelines contained in the annex to decision 10/CP.2, which relates to the UNFCCC guidelines and their possible improvements, Parties approved recommendations to, *inter alia*:

- request the application of the Revised 1996 IPCC guidelines in the elaboration and reporting of the national greenhouse gas inventories;
- encourage the use, as appropriate and to the extent possible, of the IPCC good practice guidelines in greenhouse gas inventories;
- replace Table II of the UNFCCC guidelines with the IPCC summary Table 7A as the basis for summary reporting of greenhouse gas emissions and removals;
- encourage the provision of worksheets of the IPCC reporting format as an appendix to the greenhouse gas inventories; and
- encourage the reporting of HFC emissions to the extent possible.

ADAPTATION AND VULNERABILITY ASSESSMENT

WORKING GROUP: The V&A assessment working group was chaired by Isabelle Niang-Diop. The working group considered: analytical, methodological and technical issues in the preparation and reporting of V&A assessments, including best practices and lessons learned; difficulties in the use of the IPCC methodologies and other models; and difficulties encountered in the use of the UNFCCC guidelines. The group was guided by the issues highlighted in the presentation on V&A assessment made by Chair Niang-Diop. Methodological issues included:

- the development and/or adaptation of current methodologies



- appropriate for the national context;
- improvement of access and availability of models;
- continued data collection and monitoring programmes;
- a regional approach for transboundary issues;
- improvement of the first V&A studies;
- research development in the field of adaptation;
- the question of vulnerability indicators;
- participation in training and exchange workshops; and
- better representation of national experts in IPCC.

Other issues included:

- enhancement of human resources with more focused training tools;
- enhancement of institutional capacities, including database management;
- use of a decentralized approach, as appropriate;
- training on GEF procedures;
- involvement of universities and research centers;
- raising policy makers' awareness on climate change issues;
- developing public awareness;
- involving stakeholders in the process;
- addressing financial and technical support needs; and
- development of regional centers of excellence on climate change.

V&A assessments are not currently required to be part of the national communications.

Chair Niang-Diop suggested for consideration the methodological constraints that had been raised in the regional workshops. These included: availability of technical materials in all six UN languages; problems with distinguishing between climate change and climate variability; lack of availability of regional climate change scenarios; underestimation of extreme events; lack of models for assessing some sectors; and lack of appropriate software, tools, data and methodologies for integrated and socioeconomic assessment.

On models, JAMAICA and BARBADOS stressed the need for higher resolution general circulation models while AUSTRALIA, with CUBA, cautioned against this, stressing that higher resolution models still only use the same data that the current models use. AUSTRALIA noted that until the input data exists, higher resolution models will not provide better results than the current models. CUBA stressed that other problems exist with the current models that will not be eliminated by a smaller scale. With MALAYSIA, he endorsed the use of a regional approach for identifying scenarios from the models. PANAMA said lack of capacity to run the models is also a consideration. MALAWI supported aiming for better input data for the models. On the question of whether to make V&A assessment a mandatory part of the national communications, BARBADOS noted the high costs of such studies. EL SALVADOR, with the NETHERLANDS, noted the importance of V&A studies for indicating to Annex I Parties the degree of financial and technical assistance that might be needed. BOLIVIA, ETHIOPIA, GHANA and GRENADA supported carrying out V&A assessments.

EL SALVADOR suggested also considering the assessment of existing adaptive capacity to current climate, particularly to climate variability and extreme events, within current policy. CUBA suggested that the recommendations should recognize the importance of adaptation to climate variability. On the continuous process for data collection, participants highlighted the need to strengthen and facilitate the creation of climate research centers on a national and regional level, establish South-South cooperation, strengthen, improve and develop cooperative research programmes, and establish agreements between climate change focal points, national universities and researchers. On a

regional approach, participants agreed that this could be useful, as long as they are country-driven. On integrated assessments, the discussion addressed the lack of methodology, funds and compatible data for such studies. Participants then discussed the need for improved mechanisms for collecting data. On vulnerability indicators, ECUADOR, supported by several other Parties, expressed his concern about using the indicators to compare between Parties. PANAMA suggested that vulnerability indicators could be useful for prioritizing funding and effort within a country. Participants agreed that the use of vulnerability indicators should not be recommended for inclusion in the guidelines. Parties expressed concern about the low representation of non-Annex I Parties in the IPCC process.

On Thursday, 22 March, the draft recommendations were presented to the working group participants. The recommendations were, *inter alia*:

- inclusion of a separate chapter devoted to V&A within non-Annex I national communications;
- development of a common reporting format for reporting on V&A;
- development of capacity to access, analyze and manipulate data for the purposes of V&A assessment needs;
- establishing and/or strengthening institutional structures, such as national climate change focal points and centers of excellence;
- provision of training on model use;
- provision of funding to assistance programmes, such as the NCSP;
- translation of documents into languages other than English; and
- additional guidance to the GEF relating to the three stages of adaptation defined for the purposes of funding adaptation projects.

GREENHOUSE GAS ABATEMENT WORKING GROUP:

This working group was chaired by Vute Wangwacharakul. The working group aimed to identify analytical, methodological and technical issues in the preparation and reporting of abatement options, including: best practices and lessons learned; relevant issues related to mitigation actions in the context of sustainable development; and analytical and methodological issues related to the analysis of abatement options, as well as the difficulties encountered in the use of the UNFCCC guidelines.

Participants discussed the issues identified in the regional reports relating to abatement options. They highlighted that:

- reporting on abatement in non-Annex I national communications was voluntary;
- there had only been a limited exchange of information and experience regarding the assessment of abatement options;
- the energy sector was the most widely reported sector;
- reporting of methodology was limited;
- assessment of mitigation options is an on-going process;
- detailed abatement options had been reported for the energy, agriculture, transport and waste sectors;
- limitations were apparently associated with the implementation of measures to mitigate emissions; and
- public awareness, legislation and incentives had been suggested to encourage the reduction of greenhouse gas emissions.

Problems identified were: lack of sufficient data; lack of skilled personnel; lack of access to models; difficulties with assessment of options; and limited access to appropriate technologies. It was also noted that the UNFCCC guidelines do not provide guidance for the assessment of abatement options in any of the following areas: emission reduction estimation; construction of scenarios; incorporation of options into national planning processes; or the development of integrated strategies.



This working group's recommendations, which were submitted to the Plenary on Thursday, 22 March, endorsed the inclusion of abatement guidance for Parties who may wish to include abatement in their national communications; stressed the provision of financial and technical support for data acquisition and management; and encouraged capacity building and technology assessment. Under methodologies, the working group endorsed the assessment of options, construction of scenarios, data management, interaction between abatement and mitigation, use of appropriate tools, and evaluation of social, economic and environmental options. For reporting, the group noted: the guidelines should be able to accommodate different timescales; the need for clear definitions and/or terminology; and that the assumptions used in making projections should be reported. On financial and technical support, the group recommended: the establishment of a clearing-house; the continuation of the NCSP; mechanisms to improve coordination among donors; assistance with preparation of project proposals; access to appropriate technologies; and further guidance to the financial mechanism to encourage funding of the outlined activities.

CROSS-CUTTING ISSUES WORKING GROUP: The working group on cross-cutting issues was chaired Julia Martinez (Mexico). She explained that the group would discuss cross-cutting issues, including: education, training and public awareness; information and networking; and financial and technical assistance for the preparation of national communications. This group submitted to the Plenary recommendations on issues including: education, training and public awareness, and specific recommendations that require financial and technical assistance; support programmes; and guidelines on national circumstances and education.

On education, training and public awareness, the working group:

- recommended that the UNFCCC Secretariat develop, maintain and periodically update a clearing-house mechanism;
- encouraged Parties to support this effort by actively providing materials in non-UN languages;
- further encouraged Parties to support by assisting in the translation of important materials into the official languages of the UN, including important technical documents; and
- suggested that technical material make maximum use of graphics to facilitate understanding by non-technical individuals.

The group also made specific recommendations for education, training and public awareness that require financial and technical assistance, including:

- the establishment and/or enhancement of national and regional centers of excellence for information exchange;
- the development of training materials for curricula purposes in formal and non-formal education;
- the development of common methodologies and approaches for training programmes;
- the development of programmes to train the media, including preparing updated materials on awareness raising for different purposes, with special emphasis on national and regional implications; and
- the development and maintenance by the UNFCCC Secretariat of a clearing-house mechanism on education, training and public awareness materials.

On support programmes, the working group recommended: the provision of financial and technical support for the 90 non-Annex I Parties not yet having submitted their initial national communications; the continuation of activities provided by the national communications support programmes; and further analysis of support programmes.

On guidelines on national circumstances, the group recommended that Parties provide a description of their national and regional development priorities, objectives and circumstances, and how these circumstances constitute the basis on which they address climate change and its adverse impacts. Parties suggested that the description of these circumstances could use headings such as government structure, population profile, geographic profile, climate profile, economic profile, energy, transportation, industry, mining, tourism, waste, agriculture and fisheries, forests, health, environment, and education and research institutions.

On guidelines for education, the working group recommended that the national communication may present information on aspects including:

- existing programmes for promoting education, training and public awareness on climate change;
- plans for developing such programmes, including climate change issues in the curricula of different levels of the educational system;
- the focus and magnitude of training programmes;
- the focus and scope of public awareness programmes;
- the existence and expertise of resource or information centers;
- the nature and extent of public participation in climate change related processes; and
- the needs for financial and technical support.

CLOSING PLENARY

On Thursday afternoon, 22 March, participants met in the closing Plenary. CGE Chair Ajavon opened the meeting and requested each working group to present the recommendations it had identified during the course of the workshop. The recommendations will be forwarded to the CGE for its consideration and review. The recommendations will then be returned to the Parties for comments, and finally will be presented to the SBI for submission to the COP for its consideration.

Each of the working groups then presented its recommendations: Chair Ajavon, on behalf of the group on greenhouse gas inventories; the rapporteur, Mahendra Kumar, for the working group on V&A assessment; Lauraine Lotter, rapporteur for the working group on greenhouse gas abatement issues; and Philip Weech, rapporteur for the group on cross-cutting issues.

On cross-cutting issues, SENEGAL suggested including educational centers in the clearing-house mechanism. Parties agreed with GERMANY that the workshop should take into account the input of the working group on support programmes and technical and financial needs and recommend further consideration and elaboration of these needs by the CGE members, who should also take into account input from other working groups, other regional workshops and the deliberations during the Plenary. SENEGAL suggested avoiding adding tasks to the CGE and deleting text that is not agreed. She stressed the need to know why many countries did not submit their initial national communications before recommending the need for financial support. EL SALVADOR suggested specifying in the recommendation the types of actions that should be taken by support programmes. Chair Ajavon responded that the corresponding subsidiary bodies of the UNFCCC would decide on the actions.

Parties then discussed several issues on national circumstances. EGYPT suggested reporting the information on national circumstances in a way that enables the coordination of technical assistance. ETHIOPIA suggested adding reference to land use and land cover among national circumstances. GERMANY said the description of national circumstances should be linked across other sections of the report, in particular to inventories.



Parties asked whether the comments made by the participants were to be considered by the CGE in its preparation of the final document. Participants also debated whether the recommendations could be adopted at the workshop without careful consideration and deliberation of each one, and discussed the role of the CGE in making further adjustments to the recommendations. The Secretariat explained that the recommendations would be forwarded to the CGE, which would consider the comments made during the final Plenary, and return the revised recommendations to participants for comments before the document is forwarded to the SBI.

With the understanding that the process had not yet been completed, the recommendations were then adopted by the Plenary. Chair Ajavon read out the final statement of the workshop, which, on behalf of the experts: recognized the important contribution to the work of the CGE; thanked the Governments of Panama, Mexico, Kenya and Thailand for hosting the workshops; thanked the governments of the US, Germany, Australia, Switzerland and Finland for providing funds for the organization of the workshop and meetings of the CGE; appreciated the assistance and guidance provided by the members of the CGE and the UNFCCC Secretariat; and urged the CGE members to take the recommendations of the workshop into consideration in fulfilling the tasks of the CGE, in accordance with its mandates contained in decision 8/CP.5.

Chair Ajavon thanked the participants and wished them safe journeys home. Martha Perdomo (UNFCCC Secretariat) thanked the participants, support staff, interpreters, and the government of Panama for their support. Emilio Sempris, on behalf of the Administrator of ANAM, underscored the importance of the meeting and expressed his gratitude to the participants. He closed the meeting at 8:00 pm.

THINGS TO LOOK FOR BEFORE THE RESUMED COP-6

APEC 21ST CENTURY RENEWABLE ENERGY DEVELOPMENT INITIATIVE PRIVATE SECTOR FORUM: This meeting will take place on 26-27 March 2001, in Portland, Oregon, USA. For more information, contact: the Organizing Committee and APEC Sustainable Development Network, Portland, Oregon, tel: +1-503-279-9565; fax: +1-503-279-9381; Internet: <http://www.apecnetwork.org/>

INTERNATIONAL WORKSHOP ON CARBON ACCOUNTING, EMISSIONS TRADING AND COP-6 NEGOTIATIONS RELATED TO BIOENERGY, WOOD PRODUCTS AND CARBON SEQUESTRATION: This workshop will convene in Canberra, Australia, from 26-30 March 2001. For more information, contact: Kimberly Robertson; tel: +43-316-876-1330; fax: +43-316-876-91130; e-mail: kimberly.robertson@joanneum.ac.at; Internet: <http://www.joanneum.ac.at/iea-bioenergy-task25/announcement.doc>

SIXTH INTERNATIONAL CONFERENCE ON SOLAR ENERGY AND APPLIED PHOTOCHEMISTRY: This meeting will be held from 3-8 April 2001, in Cairo, Egypt. For more information contact: Sabry Abdel-Mottaleb, Faculty of Science, Ain Shams University, Cairo, Egypt; e-mail: solar@photoenergy.org; Internet: <http://www.photoenergy.org/solar2001.html>

IPCC MEETINGS ON THE THIRD ASSESSMENT REPORT (TAR): The Intergovernmental Panel on Climate Change (IPCC) approved the reports of Working Group I (on climate change science) in January 2001, Working Group II (impacts and adaptation) in February 2001 and Working Group III (climate change mitigation)

in March 2001. The IPCC Plenary will meet in Nairobi from 4-6 April 2001, to approve all three reports. For more information, contact: IPCC Secretariat, +41-22-730-8208; fax: +41-22-730-8025; e-mail: ipcc_sec@gateway.wmo.ch; Internet: <http://www.ipcc.ch>

12TH GLOBAL WARMING INTERNATIONAL CONFERENCE & EXPO - KYOTO COMPLIANCE REVIEW: This meeting will be held in Cambridge, UK, from 8-11 April 2001. For more information, contact: Sinyan Shen, The Global Warming International Center Headquarters, USA; tel: +1-630-910-1551; Internet: <http://www2.msstate.edu/~krreddy/glowar/gw12c.html>

CONFERENCE ON EQUITY AND GLOBAL CLIMATE CHANGE: This international conference will take place from 17-18 April 2001, in Washington, DC. It is being organized by the Pew Center on Global Climate Change. The meeting will consider "fair and reasonable" actions for all countries in addressing climate change, as well as how issues of competitiveness, economic growth and ethics relate to this debate. For more information, contact: Christie Jorge Santelises; tel: +1-703-516-4146; fax: +1-703-841-1422; e-mail: jorgec@pewclimate.org; Internet: <http://pewclimate.org/events>

REGIONAL SEMINAR ON ADAPTATION TO CLIMATE CHANGE VARIABILITY IN THE INSULAR CARIBBEAN: This workshop will take place from 7-9 May 2001, in Havana, Cuba. It is hosted by the Government of Cuba and UNDP. For more information, contact: Jafet Enríquez, tel: +537 24-1512 /15; fax: +537-24-1516; e-mail: jafet.enriquez@undp.org; Internet: <http://www.onu.org.cu>

SECOND INTERNATIONAL COMBINED HEAT AND POWER SYMPOSIUM: This meeting will take place from 9-10 May 2001, in Amsterdam. For more information, contact: Quirine Boellaard, tel: +31-20-549-1212; e-mail: q.heerkens@rai.nl; Internet: <http://www.2ndCHPSymposium.com>

KYOTO MECHANISMS: EMERGING BUSINESS OPPORTUNITIES: This forum, which will convene from 10-11 May 2001, in Hong Kong, examines the business opportunities and risks as countries work towards a final agreement under the UNFCCC Conference of the Parties. Several companies will outline emissions trading market structures and provide insights on global corporate initiatives in promoting emissions trading. Government officials from India and China will discuss investment opportunities available under the Kyoto mechanisms. Case studies on Malaysian and Indonesian CDM projects will examine legal, auditing and finance issues. For more information, contact: Centre for Management Technology, Christina Lu Jialing; tel: +65-346-9132; e-mail: christina@cmtsp.com.sg; Internet: <http://www.cmtevents.com/kyoto.htm>

INTERNATIONAL SYMPOSIUM ON CLIMATE CHANGE AND VARIABILITY IN NORTHERN EUROPE: This meeting will be held in Turku, Finland, from 6-8 June 2001. For more information, contact: Mia Rönkä, University of Turku, Finland; tel: +358-2-333-6009; fax: +358-2-333-5730; Internet: <http://figure.utu.fi/notice.html>

RESUMED COP-6/14TH SESSIONS OF THE UNFCCC SUBSIDIARY BODIES: The resumed COP-6 (as outlined under COP-6 decision FCCC/CP/2000/L.3) of the UN Framework Convention on Climate Change will be held from 16-27 July 2001, in Bonn. For more information, contact: the UNFCCC Secretariat; tel: +49-228-815-1000; fax: +49-228-815-1999; e-mail: secretariat@unfccc.int; Internet: <http://www.unfccc.int>