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**AD HOC WORKING GROUP ON LONG-TERM COOPERATIVE ACTION
UNDER THE CONVENTION**

Sixth session

Bonn, 1–12 June 2009

Item 3 (a–e) of the provisional agenda

Enabling the full, effective and sustained implementation of the Convention through long-term cooperative action now, up to and beyond 2012, by addressing, inter alia:

A shared vision for long-term cooperative action

Enhanced national/international action on mitigation of climate change

Enhanced action on adaptation

Enhanced action on technology development and transfer to support action on mitigation and adaptation

Enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation

**Summary of views expressed during the fifth session of the Ad Hoc Working
Group on Long-term Cooperative Action under the Convention**

Note by the Chair*

Summary

The fifth session of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA) was held in Bonn, Germany, from 29 March to 8 April 2009. At that session, Parties considered all the elements of paragraph 1 of decision 1/CP.13 (the Bali Action Plan): a shared vision for long-term cooperative action; enhanced national/international action on mitigation of climate change; enhanced action on adaptation; enhanced action on technology development and transfer to support action on mitigation and adaptation; and enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation. The AWG-LCA invited the Chair to prepare a summary of the views expressed in that session. This document is in response to that invitation.

* This document was submitted after the due date because there was insufficient time to finalize it.

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I. Introduction

A. Mandate

1. The Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA), at its first session, invited its Chair to prepare a summary of the views expressed at each session. It also requested that the Chair include in that summary the views expressed at the workshops held as part of its work programme.¹ This note contains the Chair's summary of views expressed at the fifth session of the AWG-LCA, which was held in Bonn, Germany, from 29 March to 8 April 2009.

B. Scope of the note

2. The fifth session of the AWG-LCA covered the five elements contained in paragraph 1 of decision 1/CP.13 (the Bali Action Plan). To progress in its work, the AWG-LCA established four contact groups on the following subjects:

- (a) A shared vision for long-term cooperative action;
- (b) Enhanced action on adaptation and its associated means of implementation;
- (c) Enhanced action on mitigation and its associated means of implementation;
- (d) Delivering on technology and financing, including consideration of institutional arrangements.

3. This summary is organized in relation to the themes addressed by the four contact groups in order to best reflect the context of the exchange of views. It is based on the oral reports delivered by the chairs of the contact groups during the closing plenary of the session and was taken into account by the Chair in preparing a negotiating text for consideration by the AWG-LCA.² The summary does not include comments on the document prepared by the Chair to focus the negotiating process on the fulfilment of the Bali Action Plan.³

4. This summary does not address ideas and proposals contained in the most recent set of submissions from Parties received by the secretariat from the end of the fifth session up to 5 May 2009.

II. Chair's summary

A. A shared vision for long-term cooperative action

5. The consideration of a shared vision for long-term cooperative action addressed the question of how a shared vision statement in the agreed outcome should be articulated to integrate the essential goals of action on adaptation, mitigation, technology and financing, and their inter-relationships. It was considered helpful to synchronize this task with negotiations on these elements. Consideration was also given, in the context of a shared vision, to a long-term global goal for emission reductions, as prescribed in the Bali Action Plan.

6. Parties converged on the view that a shared vision for long-term cooperative action must be based on the Convention, particularly its objective, principles and commitments. The principles of equity and common but differentiated responsibilities and respective capabilities were recalled repeatedly.

¹ FCCC/AWGLCA/2008/3, paragraph 26.

² FCCC/AWGLCA/2009/8.

³ FCCC/AWGLCA/2009/4 (Part I and II).

7. In order to reflect changing circumstances in an evolving vision, some Parties proposed the inclusion of contextual ideas, including on the state of the economy, the need for a change in lifestyles, the power of innovation, gender issues, the right to survival of the most vulnerable countries, and the climate debt that developed country Parties owe to developing country Parties.
8. Recalling the Bali Action Plan, Parties emphasized that a shared vision for long-term cooperative action should enable enhanced implementation of the Convention in a full, effective and sustained manner. Some Parties recalled that Article 2 of the Convention refers not only to the stabilization of greenhouse gas (GHG) concentrations but also to adaptation, food security and sustainable development.
9. Parties also converged on the idea that a statement on a shared vision in the agreed outcome should serve as a renewal of political will to implement the commitments of the Convention and to reduce emissions and build resilience. It should express a collective determination to make the transition to sustainable paths of development and to a low-emission society.⁴
10. Many Parties highlighted that, at the same time, such a statement should communicate to the public the urgency of the need to address climate change and what needs to be achieved, including a long-term global goal for emission reductions that is quantified in an understandable way for the public. It was noted that for the purpose of better communicating the agreed outcome to the public, the statement should be short, simple and profound, and could be included in a preambular part of the agreed outcome.
11. Regarding a long-term global goal for emission reductions, many Parties expressed the opinion that such a goal should provide direction to long-term cooperative action on all the elements of the Bali Action Plan and to the enhanced implementation of the Convention. In the same way, medium-term targets should guide the necessary short- and medium-term action.
12. Parties converged on the view that developed country Parties show leadership by committing to ambitious medium-term targets. In addition, some Parties suggested that emissions from Parties included in Annex I to the Convention (Annex I Parties) peak earlier than global emissions do. Other Parties proposed a collective medium-term target, albeit led by Annex I Parties. Some Parties favoured an approach that acknowledges that there are multiple pathways to the long-term goal.
13. Parties converged on the idea that, for any of these approaches, the long-term global goal for emission reductions and the related medium-term targets should be based on the best available scientific information. Concern was expressed by some Parties about the way in which scientific information was being interpreted. In this regard, some Parties requested the Chair of the AWG-LCA to organize a technical briefing on historical responsibility as a guide to future action to address climate change. The Chair called on the scientific community to undertake more studies that would allow the Intergovernmental Panel on Climate Change to assess a broader range of scenarios and their assumptions, including assumptions on baselines, pathways, burden sharing and associated uncertainties.

B. Enhanced action on adaptation and its associated means of implementation

14. The consideration of enhanced action on adaptation and its associated means of implementation covered the three areas that had been highlighted by Parties at previous sessions:
- (a) A comprehensive framework for adaptation;
 - (b) Matching adaptation with support in the form of financing and technology;
 - (c) Risk management and sharing, including insurance.

⁴ Parties refer either to “low-emission” or “low-carbon”. For the purpose of this document, “low-emission” is used as a more inclusive term.

Requirement for general provisions

15. The exchange of views led to the emergence of six main topics. The first topic identified was the requirement for general provisions, including the objectives, principles and scope of adaptation action. In this context, Parties stated that the provisions of adaptation in the agreed outcome should be based on the relevant provisions of the Convention. Many Parties suggested a country-driven, bottom-up, programmatic, flexible and learning-by-doing approach to adaptation. Parties seem to converge on the idea of a comprehensive framework for adaptation that should provide guiding principles and facilitate action in an efficient and effective manner within and beyond the UNFCCC process. General provisions suggested for such a framework might be that, inter alia:

- (a) Adaptation is treated at an equal level to mitigation;
- (b) Both adaptation and mitigation are needed. The extent of mitigation will affect the extent of adaptation required;
- (c) The needs of developing country Parties are considered, particularly least developed countries (LDCs), small island developing States (SIDS) and countries in Africa suffering from floods, drought and desertification;
- (d) The needs of particularly vulnerable groups, including women and children are considered;
- (e) It contributes to building resilience of the most vulnerable countries.

16. A view was expressed that the definition of adaptation should cover both adapting to the adverse effects of climate change and adapting to the impact of the implementation of response measures. Other Parties stated the view that the focus should be on adaptation to the impacts to the adverse effects of climate change.

Institutional arrangements

17. The second topic identified was institutional arrangements. Many Parties highlighted that a flexible approach is required to ensure that the implementation of actions at local, subnational, national and regional levels is given priority, and that the effective and efficient flow of resources from the international community is ensured. Parties suggested that further consideration is needed on what aspects of the proposed framework and the support for it may constitute mandatory commitments. There was general agreement on the catalytic role of the Convention, a role that could also be enhanced to provide guidance and coordinate adaptation activities at the international level. Parties also converged on the idea to build on existing mechanisms under the Convention (such as the Nairobi work programme on impacts, vulnerability and adaptation to climate change) and under other multilateral arrangements (such as the Hyogo Framework for Action). The important role that regional centres could play was emphasized in the interventions of many Parties.

Means of implementation

18. The third topic identified by Parties was means of implementation. Parties generally considered that new, additional, predictable, sufficient and sustainable resources are required, as well as timely, effective, direct, equitable and simplified access to these resources. Many Parties stressed that the contribution from developed country Parties must be additional to official development assistance (ODA). It was suggested that provision of, and access to, resources should be a flexible process that allows the supply of resources to be reviewed, the supported action to be implemented and the adaptation needs identified by Parties to be addressed at local, subnational, national and regional levels. Several Parties noted that it will be necessary to scale up support, including financing, technology transfer and

capacity-building, for the implementation of a range of adaptation activities and vulnerability and impact assessments, based on national priorities and building on traditional and scientific knowledge. The scaled-up support was said to include:

- (a) Enabling activities for implementation of adaptation actions;
- (b) Concrete and integrated activities with the focus on a programmatic approach; the need for some project-based adaptation, including stand-alone adaptation, should also be taken into account;
- (c) Cross-sectoral and sector-based activities;
- (d) Data collection, analysis and dissemination;
- (e) Technologies for adaptation, including for their research and development, deployment, diffusion and transfer;
- (f) Disaster and risk management and reduction actions, including early warning systems, insurance schemes and resilience building projects and programmes;
- (g) Economic diversification;
- (h) Pilot projects.

19. More clarity seems to be needed on some aspects of support, especially funding, including:

- (a) The issue of full-cost funding for adaptation;
- (b) Incremental resources for coping with the additional burden of climate change;
- (c) Mutual accountability;
- (d) Coherence among existing international sources of support, including Convention funds and bilateral and multilateral funds outside the Convention;
- (e) Financial support for mainstreaming adaptation into national planning;
- (f) The concept of the “adaptation debt”.

20. Some Parties identified a need to consider intellectual property rights in the context of technology development and transfer. It was also suggested that support for adaptation should address immediate and long-term adaptation needs as well as the needs of local communities and indigenous peoples.

21. Several Parties mentioned the importance of not diverting ODA away from poverty reduction and sustainable development. The need to not impose conditionalities on adaptation funding was stressed by many Parties. Some Parties mentioned that the scope of adaptation actions is very broad , and that this has to be taken into account when considering adaptation funding.

Implementation

22. Implementation of adaptation action was the fourth topic to emerge. This was considered to include those actions identified in national adaptation plans for the short, medium and long term, as well as within and across sectors. Several Parties noted that a coherent and comprehensive approach is required to implement adaptation actions at the national level (as opposed to what was described as the current fragmented approach). A suggestion was made that, where necessary, implementation could also support an ecosystem approach. Many Parties stressed that LDC national adaptation programmes of

action (NAPAs) must be fully implemented as soon as possible. NAPAs were deemed to be a good example to use when devising national adaptation plans that go beyond urgent and immediate needs and include longer-term action. Several Parties suggested that NAPAs should be expanded to other developing countries. Many Parties mentioned the need to integrate adaptation into national and sectoral planning in order to make the implementation of adaptation action more effective. Several Parties also indicated that there are many adaptation interventions that require implementation, which by their very nature are generally not included in development plans.

23. Regarding the implementation of enabling activities and environments, it was suggested that these could include:

- (a) The preparation of national adaptation plans;
- (b) The preparation of adaptation assessments;
- (c) Promoting knowledge-sharing (building on the Nairobi work programme);
- (d) Coordinating mechanisms at local, subnational, national and regional levels;
- (e) Supporting activities on the ground, using scientific and traditional knowledge and a learning-by-doing approach;
- (f) Substantial increase in capacity-building;
- (g) Strengthening regional centres and establishing new ones as necessary.

Risk and insurance

24. The fifth topic was risk and insurance. Parties addressed the need for support for loss and damage due to climate change impacts, including through risk management and sharing schemes, such as insurance. The need to give priority to the prevention and reduction of risk was repeatedly mentioned. Several Parties highlighted that country-driven solutions to deal with climate change risk were necessary because of the broad range of national circumstances. It was suggested that risk transfer mechanisms need to be designed and that they should provide incentives, and not disincentives, for risk reduction and adaptation activities. Parties concur on the idea of building and strengthening existing mechanisms under the Convention to develop projects and programmes to assess, manage and reduce risks, while enhancing synergies and avoiding duplication of efforts. At the same time, some Parties identified a need to develop new and innovative support mechanisms for climate-induced risk reduction, including a proposal for establishing a multi-window mechanism for this purpose. Many Parties also stressed the need to improve institutional capacities for systematic climate observation, data collection and modelling. Risk and insurance was identified by some Parties as intrinsically linked to adaptation planning and implementation. The role of the private sector was highlighted, as was the need to create enabling environments to engage the private sector, possibly through public-private partnerships.

Monitoring and review

25. The sixth and final theme was that of monitoring and review. Parties addressed the need for mutual accountability and robust governance to ensure efficient and effective supply and use of resources for adaptation action. Many Parties highlighted the need to review progress and ensure full implementation of adaptation actions and commitments. Several Parties called for a mechanism for monitoring, reporting and verifying support provided by developed country Parties.

C. Enhanced action on mitigation and its associated means of implementation

26. The consideration of enhanced action on mitigation and its associated means of implementation was facilitated by three workshops: a workshop on economic and social consequences of response

measures, held on 31 March 2009; a workshop on subparagraphs 1 (b) (i) and 1 (b) (ii) of the Bali Action Plan, held on 1 April 2009; and a workshop on opportunities and challenges for mitigation in the agricultural sector, held on 4 April 2009.⁵ Building on the exchange of views at these workshops, Parties gave consideration to all seven subparagraphs of paragraph 1 (b) of the Bali Action Plan.⁶

1. Mitigation by developed countries

27. The discussion on mitigation by developed countries centred on the following issues: the overall ambition of mitigation action by developed country Parties; the nature of commitments and actions by developed country Parties, and ways to define such commitments (e.g. through bottom-up or top-down approaches) and emission reduction pathways; comparability of efforts and criteria for assessing this; and issues relating to measurement, reporting and verification and compliance. In the course of this discussion references were also made to the relationship between issues addressed by the AWG-LCA and issues addressed by the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol.

28. With respect to the level of ambition, there was general agreement that developed country Parties should take the lead in modifying longer-term trends in GHG emissions through ambitious mitigation commitments or actions, based on the principles of the Convention and the scientific evidence that suggests that urgent action is needed. Some Parties reiterated that the extent of adverse impacts on the most vulnerable countries will depend on the timeliness and level of ambition of the action undertaken by developed country Parties.

29. Some figures were suggested for a medium-term reduction goal for developed country Parties, as a group, such as more than 40 per cent, a range of 25–40 per cent or 30 per cent below 1990 levels by 2020. For a long-term target (by 2050) for developed country Parties as a group, the suggestions were a reduction of GHG emissions by 80–95 per cent and by more than 95 per cent below 1990 levels. Some Parties suggested that global emissions should peak by 2015 while some others suggested that they should peak by 2020. Some Parties noted that different pathways may lead to the same long-term emission reduction goal. A group of Parties emphasized the importance of the need to recognize the feasibility of following the GHG stabilization scenarios that would limit the increase in global surface temperatures to below 1.5°C.

30. On the nature of commitments or actions by developed country Parties, a convergent view is that Annex I Parties should take binding quantitative economy-wide emission reduction commitments. Some Parties stressed that actions should be nationally appropriate, and can be domestically binding. A question was raised on how nationally binding actions would relate to international commitments within the UNFCCC process.

31. On comparability of efforts and national circumstances, some Parties explored ways in which this issue can be approached from a technical or a political perspective. Proposed criteria for determining comparability of efforts include historical responsibility, ability to pay, mitigation potential (from both top-down and bottom-up approaches), total cost, multiple base-year levels, and population and emission trends. A suggestion was made to establish a technical panel on comparability. It was further suggested that comparability should be understood not only in terms of quantitative characteristics of domestic mitigation efforts, but also as a more comprehensive framework that would cover financial assistance, capacity-building and technology transfer, including, for example, investment for research and development of technology for mitigation. A proposal was also made to include as a criterion for comparability of efforts the principle of historical climate debt of developed countries to developing countries. Using the same definitions and procedures as those under the Kyoto Protocol was also qualified by some Parties as a comparability criteria.

⁵ <http://unfccc.int/meetings/ad_hoc_working_groups/lca/items/4725.php>.

⁶ The reports of these workshops are contained in annexes I, II and III, respectively.

32. On measurement, reporting and verification of commitments or actions, a suggestion was made that this should be one of the central issues for consideration by the AWG-LCA. Some Parties emphasized the relevance of Articles 5, 7 and 8 of the Kyoto Protocol to procedures related to measurement, reporting and verification for all Annex I Parties, including those not bound by the Kyoto Protocol.

33. It was suggested that the AWG-LCA should establish a medium-term (2020) target for all Annex I Parties, as a group, and also individual targets for Annex I Parties that are not Parties to the Kyoto Protocol. There was also a suggestion that the commitments for Annex I Parties should be considered together with actions by “advanced developing countries”, which should also make comparable commitments. The use of this terminology and the suggestion that these Parties should take comparable commitments was questioned by other Parties. One Party suggested that there is a need to adopt a new single international binding agreement at the United Nations Climate Change Conference in Copenhagen. The importance of the legal framework for the outcome of the work of the AWG-LCA was also noted by some Parties.

2. Mitigation by developing countries

34. Discussions on mitigation by developing country Parties centred on the sustainable development context and the nature and scope of nationally appropriate mitigation actions (NAMAs) by developing country Parties; a possible mechanism to recognize NAMAs and to facilitate the provision of support (e.g. by “matching” actions with support); and measurement, reporting and verification of actions and support.

35. There is a broad agreement that NAMAs by developing country Parties should be undertaken in accordance with the principles of the Convention, provide for the goals of sustainable development and poverty eradication, and be supported and enabled by technology, finance and capacity-building in accordance with Article 4, paragraphs 3 and 7, of the Convention and with the Bali Action Plan, on the basis of “agreed full incremental costs” as stated in Article 4, paragraph 3.

36. Many developing country Parties declared their readiness to pursue a low-emission development path with the goal of reaching a significant deviation from the emissions baseline. It was noted that NAMAs can be seen as a means to realize sustainable development aspirations, and as such, could be viewed as an opportunity rather than a burden.

37. Regarding the possible quantification of the overall level of ambition of action undertaken by developing country Parties, some Parties proposed that NAMAs should collectively result in a 15–30 per cent deviation from a GHG emissions baseline by 2020. Some Parties challenged this view, questioning the underlying assumptions for establishing this deviation and emphasizing that no hypothetical baselines should be established for developing country Parties.

38. On the nature of NAMAs, many Parties stressed that NAMAs should be determined and formulated at the national level, and on a voluntary basis. Others discussed whether NAMAs should be established through this purely bottom-up approach, or whether there should be some relation between the nature of NAMAs and the capacity of countries to implement them. Some Parties suggested that NAMAs should be integrated into a low-emission strategy or a national plan in order to provide for a coherent, strategic and programmatic approach to mitigation action and support.

39. Progress was made on how NAMAs will be defined. Some Parties proposed that NAMAs should be any mitigation actions than are defined as such by the implementing Parties; others suggested that NAMAs should be only those actions defined as such and supported by international finance and technology. The view was also expressed that NAMAs can be categorized into three broad types: (1) unilateral, nationally funded actions; (2) actions supported and enabled by technology, financing and capacity-building by developed country Parties; and (3) actions credited through carbon market arrangements.

40. Many Parties expressed interest in proposals to establish a mechanism that would serve to recognize NAMAs internationally and match actions with support. More clarity was provided on the possible functions of such a mechanism, building on the following three proposals: (1) a registry of NAMAs; (2) a registry of NAMAs that would include the possibility of crediting NAMAs through the international carbon market; and (3) a support and accreditation mechanism under the Conference of the Parties (COP). The point was made that a mechanism can be envisioned as a “NAMA window” of a financial mechanism under the Convention. It was also suggested that a NAMA registry should go beyond projects and be distinct from the clean development mechanism, and that not only NAMAs themselves but also capacity-building activities should be supported.

41. Some Parties stressed that more clarity is still needed on what a NAMA mechanism would do, in particular regarding its possible matching functions, as such a matching mechanism may involve risks, such as selectiveness, delays or conditionalities. It was noted that clarity is also needed on the incentives for, and ways to recognize, unilateral action by developing country Parties, as well as on the proposal of “crediting” NAMAs. A view was expressed that such crediting should not be used to offset emission reduction commitments by developed country Parties.

42. On measurement, reporting and verification of actions by developing country Parties, it was suggested that outcomes of NAMAs need to be measured and reported and that only those NAMAs that receive international support should be subject to measurement, reporting and verification by national entities under UNFCCC guidelines. In this regard, it was proposed that a strong compliance mechanism be established to ensure the measurement, reporting and verification of support.

43. It was also suggested that, in connection with NAMAs, GHG inventories by developing country Parties are fundamental for assessing actions and support. The suggestion was made that measurement, reporting and verification for both actions and support could be defined through contractual agreements between a developing country Party and a financial mechanism under the Convention. It was also noted that there is a need for better understanding of the interpretation of the term “verification” in the context of the Bali Action Plan.

44. In this regard, some Parties noted that, as discussed at the workshop held on 4 April,⁷ there is substantial mitigation potential in the agricultural sector, but more research is needed on how to measure and verify agricultural mitigation actions. Many Parties noted that NAMAs could be implemented in this sector in the context of national mitigation strategies and sustainable development, but aspects specific to this sector need to be addressed.

3. Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries

45. Many Parties expressed interest in discussing this issue in the context of NAMAs by developing country Parties.⁸ In this sense, there is broad support that actions under paragraph 1 (b) (iii) of the Bali Action Plan (hereinafter referred to as REDD-plus) are an option available to developing country Parties and that such actions should be supported by predictable and sustainable financing, capacity-building and technology transfer.

46. In addition, there is broad agreement that REDD-plus activities should be implemented in several phases including a readiness phase (capacity-building and technical assistance), initial implementation, which includes policy implementation and demonstration activities, and full implementation, which includes the measuring and rewarding of results.

⁷ See paragraph 27 above.

⁸ Issues relating to financing REDD-plus activities were addressed by the contact group on delivering on technology and financing, including consideration of institutional arrangements.

47. Regarding what is needed in order to implement REDD-plus activities, Parties highlighted several elements, including:

- (a) REDD-plus arrangements should be performance-based;
- (b) Robust methodologies and monitoring systems are required for measurement, reporting and verification of quantitative outcomes of REDD-plus activities, supported by transparent and effective institutional arrangements, and transparent and effective institutions;
- (c) Broad participation and a nationwide level of implementation should be encouraged;
- (d) Indigenous and local communities should be involved in implementation and their rights respected;
- (e) Co-benefits should be promoted and maximized;
- (f) Issues relating to leakage, non-permanence, land tenure and land use and other factors specific to REDD-plus activities should be addressed.

4. Cooperative sectoral approaches and sector-specific actions

48. There are diverse views on the role of cooperative sectoral approaches and sector-specific actions but Parties seem to concur that they:

- (a) Must be guided by the principles of the Convention;
- (b) Can help developed country Parties to meet national emission reduction commitments but must not replace them;
- (c) Must not result in barriers to trade.

49. Many Parties noted that a focus on technology, in line with Article 4, paragraph 1(c) of the Convention, is central to sectoral approaches, but there is disagreement on whether and how these approaches could be applied.

50. Parties explored several ideas on how sectoral approaches and sector-specific actions could be implemented, in particular on crediting and trading at a sectoral level, but views remained divergent. In terms of GHG emissions from international aviation and maritime transport, some Parties proposed that the COP should establish a global emission reduction goal for these sectors and that the International Civil Aviation Organization and the International Maritime Organization be entrusted with achieving it. Other Parties disagreed with the proposal.

5. Various approaches to enhance the cost effectiveness of, and to promote, mitigation actions

51. Parties generally considered effectively regulated market approaches to be a good tool for mitigating emissions, helping to promote least-cost abatement and driving technology development and diffusion. Some Parties stressed the need to engage the private sector, as emission reductions are ultimately carried out by that sector.

52. There is also awareness that market mechanisms can deliver support (e.g. finance and technology) to developing countries. There were, however, concerns within the contact group about the degree to which developed country Parties' emissions should be offset through activities in developing countries.

53. Many Parties stressed the need for governments to play a role in the regulation of market approaches and that they would remain responsible for the implementation of the Convention. Parties identified some key caveats that must be heeded:

- (a) Markets are not a complete solution but they need to be part of a policy mix;
- (b) Markets need to be regulated;
- (c) Conformity with Article 3, paragraphs 3 and 5, of the Convention needs to be ensured;
- (d) Equity needs to be ensured and barriers of access to market mechanisms need to be addressed.

54. Several proposals for new market-based approaches were explored. Proposals include:

- (a) Sectoral crediting based on “no-lose” targets;
- (b) Sectoral emissions trading;
- (c) Crediting for emission reductions resulting from NAMAs.

6. Economic and social consequences of response measures

55. Several Parties emphasized that there is still a need to assess how the effects of the implementation of response measures are distributed across economic and social sectors, in terms of employment (job creation and job loss) and livelihoods, as well as how developing countries are affected. The need to improve the exchange of available information and understanding of the consequences of response measures was also mentioned. A reference was made to the vulnerability of poor countries to external shocks, as well as to the vulnerability of fossil fuel exporting countries.

56. Parties also discussed the proposal of establishing a forum to facilitate the exchange of information and engage a wide range of organizations, the private sector, experts and other stakeholders in this undertaking. Some Parties suggested that such a forum could facilitate the evaluation of impacts and the consideration of possible solutions.

7. The catalytic role of the Convention

57. Parties generally agreed that the best way to consider the catalytic role of the Convention in mitigation is to consider it in relation to the other elements of paragraph 1 (b) of the Bali Action Plan. Parties noted the potential of the Convention for catalyzing action and mobilizing resources through other United Nations entities, and other intergovernmental and non-governmental organizations, as well as through the private sector. There was general support for an enhanced catalytic role of the Convention as the framework responsible for global action on climate change, ensuring due respect for the Convention's principles and other legal provisions. It was also noted that the role of the Convention should not only be catalytic. Several Parties stressed that there is a need and a clear legal basis for resources and action to be directly under the COP to ensure the implementation of its decisions, especially regarding finance and technology.

D. Delivering on technology and financing, including consideration of institutional arrangements

58. Parties concentrated on proposals made in the following areas:

- (a) Technology development and transfer, including technology cooperation and cooperative research and development;
- (b) Means of generating finance, and facilitation of delivery and access;

- (c) Governance and design of institutional arrangements for finance and technology, including capacity-building;
- (d) Enhanced action on finance, technology and capacity-building to support action on adaptation and policy approaches and positive incentives for issues related to REDD-plus.

Technology development and transfer

59. On technology development and transfer, views expressed show that there were several areas of common ground with regard to future actions to enhance the delivery of technology to support action on mitigation and adaptation as well as the transition towards a low-emission development pathway and a climate-resilient world. Parties proposed a number of ways forward. These proposals included the development of a technology action plan, technology road maps and low-emission development strategies, which, as well as the technology needs assessments currently undertaken by many developing countries, were highlighted as tools to identify technology options and resource needs for the implementation of NAMAs by developing country Parties.

60. Parties also discussed a number of possible approaches to address issues surrounding publicly owned technologies, intellectual property rights and patents in order to enhance access to environmentally sound technology for low-emission growth and adaptation. Joint technology research and development activities were highlighted by many as ways to enhance capacity of developing countries and to share intellectual property rights.

61. Many Parties emphasized the differences in the roles of public and private finance at various stages of the technology development cycle and the need to scale up public funding and improve policy instruments for leveraging private investments. Some Parties also highlighted the enhanced role of the private sector as an important element in the agreed outcome.

62. Regarding specific institutional arrangements for enhanced action on technology development and transfer, suggestions were made to establish a body to oversee overall implementation and monitor the progress of future action on technology such as an advisory group on sectoral technology cooperation to support NAMAs, and a technology mechanism with the support of an executive body on technology and advisory expert panels. In addition, many Parties expressed interest in the creation of a network of technology innovation centres. Some Parties pointed out that any new mechanism would need to take into consideration the special circumstances of LDCs, SIDS and other vulnerable countries.

Means of generating finance

63. On the generation of financial resources, the need to scale up financial resources to support developing country Parties in responding effectively to climate change was reiterated; as were several guiding principles for the generation of financial resources, including their being new and additional, adequate, predictable, sustainable and over and above existing ODA flows. Many Parties emphasized that the provision of financial resources by developed country Parties is a commitment under the Convention to cover the agreed full incremental costs of mitigation and full cost of adaptation.

64. There was a general view that resources could be generated through a mix of assessed national contributions and market-based approaches (such as auctioning of allowances and levies), although proposals on the role of public and private funding varied. Several Parties proposed that an assessed contribution of resources by developed country Parties be the main source of enhanced financial resources. These could be based on the principle of common but differentiated responsibilities and respective capabilities. Some Parties also underlined the importance of historical responsibility and the polluter pays principle in this context. Many others highlighted the current share of the private sector in global investment and financial flows and its role in addressing climate change.

65. On the issues related to the delivery of resources, including access and disbursement, many Parties proposed that the allocation of resources for adaptation and mitigation should follow a balanced approach, with priority access conferred to the most vulnerable developing countries. Various guiding principles were mentioned, including relevance of both programmatic approaches and project approaches, country ownership and improved access, with direct access as one of the proposed options for improved access. Measurement, reporting and verification of support and action was underlined as key for mutual accountability.

Governance and institutional arrangements

66. On institutional arrangements, various principles for overall governance were proposed, including efficiency, effectiveness, transparency and balanced representation.

67. Parties exchanged views on the choice between establishing new mechanisms, including new specialized funds, and strengthening existing ones. Many Parties called for a new and strong financial architecture under the authority and supervision of the COP, to enhance delivery of necessary financial resources and technology transfer, in accordance with commitments enshrined in the Convention. Proposals for institutional arrangements included: (1) arrangement by focal area (adaptation, NAMA, technology, etc.) and (2) a single architecture to ensure integration across all focal areas. Other Parties emphasized the need to reform existing institutions before considering the creation of new institutional arrangements. Concern was expressed about administrative costs of the design and operation of new institutional arrangements.

68. Parties also discussed the delivery of resources through multiple channels, both through the Convention and outside the Convention, and through bilateral and multilateral channels. Some Parties highlighted the comparative advantages of different institutions while other Parties drew attention to problems associated with multiplicity of governance as well as differing mandates of different institutions. These were described as key barriers for developing country Parties in accessing resources. In this context, some Parties highlighted the need to consider coordination, coherence and complementarity to be ensured if multiple sources of delivering financial resources are mobilized.

Enhanced action on finance, technology and capacity-building to support action on adaptation and REDD-plus activities

69. Regarding support for adaptation, Parties concur on the need for scaled-up financing to address adaptation and reiterated the suggestion of prioritizing adaptation efforts in developing countries, in particular the most vulnerable developing countries. Many Parties stressed the primary role of public finance and reiterated the need to support endogenous technologies, early warning systems, schemes for risk management and risk assessment, and to promote public-private partnerships. The need to address institutional capacity and means for monitoring and feedback was also identified.

70. As support for REDD-plus activities, many Parties stressed that new and/or enhanced financial resources are needed, and that such resources should be predictable and sustainable. Access to technology transfer and capacity-building would also be needed.

71. Several Parties suggested that the different REDD-plus activities and the different phases proposed for their implementation may need to be supported by different financing options, including use of public funds, use of markets, or a combination. Various ways to deliver such resources were proposed, whether as stand-alone arrangements or as integrated arrangements within the overall financial architecture. A convergent view seems to be that upfront support should be provided to technical and institutional capacity-building activities. The importance of providing upfront support to build robust measurement, reporting and verification systems to ensure sufficient financial resources for full implementation was highlighted by many Parties.

Annex I**Report on the workshop on economic and social consequences of response measures****Report by the chair of the workshop****I. Introduction**

1. At its third session, the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA) requested the secretariat, under the guidance of the Chair in consultation with Parties, to organize a workshop at its fifth session, on economic and social consequences of response measures.¹
2. The approach and objectives of the workshop were outlined in the scenario note for the fifth session of the AWG-LCA.²
3. This workshop was held in Bonn, Germany, on 31 March 2009, during the fifth session of the AWG-LCA, and was chaired by Mr. Kishan Kumarsingh.
4. In the scenario note referred to in paragraph 2 above, the Chair of the AWG-LCA invited interested Parties to bring their ideas and proposals to the workshop. The following Parties or groups of Parties made presentations: the Philippines on behalf of the Group of 77 and China, Australia, Saudi Arabia and Qatar. The International Labour Organization also made a presentation. A written statement from the United Nations World Tourism Organization was made available during the workshop.
5. An exchange of views took place after the presentations. Statements and comments were made by Argentina, Australia, Benin, Bhutan, Bolivia, Brazil, Canada, Chile, Colombia, the Czech Republic on behalf of the European Community and its member States, Gambia, Indonesia, the Islamic Republic of Iran, Japan, Mexico, New Zealand, Nigeria, Saudi Arabia, Togo, Turkey, Uruguay and the Bolivarian Republic of Venezuela. After this exchange of views, the chair invited observer organizations to make statements. Two short interventions were made by observer organizations, one by the International Trade Union Confederation on behalf of the trade union non-governmental organizations and another by Friends of the Earth International on behalf of the constituency of environmental non-governmental organizations.

II. Summary of discussions

6. Discussions centred on deepening the understanding of the economic and social consequences of response measures and on possible cooperative actions to address them.
7. Some Parties noted that there is a lack of information on and common understanding of the impact of response measures. In this regard, some Parties stressed the need to improve the exchange of information on the subject. Some Parties stated that national communications could be a useful channel for reporting on economic and social consequences of response measures. Some suggested that there is a need to discuss this issue at national as well as international levels.
8. During the workshop, it was recognized that there are negative as well as positive consequences of response measures. Some Parties argued that both types of consequences should be taken into account when considering response measures. Some Parties described the complexity of this issue owing to the

¹ FCCC/AWGLCA/2008/12, paragraph 35.

² FCCC/AWGLCA/2009/2, paragraphs 8–10.

wide range of economic and social factors involved. Parties also noted that there is a need for a better understanding of the magnitude and scope of these consequences.

9. As examples of negative consequences, Parties referred to: possible trade distortion; implications of subsidies on fossil fuel; cost implications of labelling (such as eco-labelling); effects on exports due to higher taxes on carbon-intensive products; market barriers due to cap-and-trade policies; and a fall in employment levels in certain sectors owing to the effects of technological innovation on the competitiveness of some enterprises. Some Parties presented information on negative consequences affecting fossil-fuel exporting countries, the agricultural sector, and small and medium-sized enterprises.

10. One Party informed the workshop that the 2008 World Energy Outlook of the International Energy Agency reports great uncertainty regarding future energy demands, which is a consequence of scenarios with considerable differences due to the impact of different climate policies. The Party mentioned, as an example, that policies that impact agriculture will have the highest impact on agriculture-dependent developing countries, and policies that target oil and oil products will have the highest impact on oil exporters.

11. On positive consequences, it was mentioned that mitigation actions such as technology innovation could have co-benefits in terms of job creation and improved health of workers from better air quality. One Party suggested that energy security could be a positive consequence of development and transfer of low greenhouse gas emitting technology.

12. Some Parties stressed the need to assess the consequences of response measures, with a view to finding ways to help countries address them. Some Parties suggested that the Intergovernmental Panel on Climate Change could prepare a special report on social and economic consequences of response measures, including national and regional assessment of policies, methods and tools to address climate change. A suggestion was made to evaluate various policy choices based on their possible impacts on particular countries and particular sectors, in line with scientific and technical information. Some Parties suggested that principles and guidelines could be developed to assist in the systematic assessment of the impacts. There was also a suggestion to undertake social dialogues as part of the process of assessing policies and measures.

13. Some Parties noted that tools and models to assess the impact of different policies are available and are already being implemented by many developed country Parties at the national level in order to evaluate the domestic impact of different policy options. It was suggested that these assessments could be expanded to cover the impacts on various developing countries that are particularly vulnerable, and the impacts on different sectors.

14. Several Parties expressed the need to assess how effects of response measures are distributed across economic and social sectors, in terms of employment (job creation and job loss) and households. There was a suggestion to develop labour market assessment tools and design active labour market policies and capacity-building programmes in order to avoid unintended negative consequences on employment.

15. Parties expressed the need to enhance the economic and social resilience of countries, in particular the most vulnerable poor countries that have the fewest resources and least capacity to deal with the impact of response measures. Measures to enhance resilience of these countries could include: economic diversification, capacity-building, financial assistance, technology development, technology transfer, and insurance and risk management strategies. One Party suggested that the financial support for nationally appropriate mitigation actions being proposed under the AWG-LCA could offer a means to deal with some aspects of response measures.

16. Some Parties mentioned the need to establish a forum to assist affected countries in analysing and addressing the impact of response measures. Apart from ensuring exchange of information on the

consequences, the forum could engage relevant organizations, the private sector, experts and other stakeholders in this undertaking. The forum could also evaluate impacts of policies using modelling techniques. It could also consider appropriate tools (such as economic diversification, insurance, technology development and transfer) for dealing with negative consequences as well as identifying possible sources of funding. There was a suggestion to establish this forum under the Subsidiary Body for Implementation (SBI). There was also a suggestion that the Nairobi work programme on impacts, vulnerability and adaptation to climate change could be used as a model for advancing the exchange of information on how to address the impact of response measures.

17. Parties expressed the need to ensure coherence in discussions of consequences of response measures within the UNFCCC process, namely across the AWG-LCA, the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol, the SBI and the Subsidiary Body for Scientific and Technological Advice. Some Parties indicated that it would be convenient to streamline the agendas on similar matters in different bodies.

Annex II**Report on the workshop on subparagraphs 1 (b) (i) and 1 (b) (ii) of the Bali Action Plan****Report by the chair of the workshop****I. Introduction**

1. The Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA) agreed at its first session that its work should be facilitated by workshops and other activities to clarify and deepen understanding of the elements contained in decision 1/CP.13 (the Bali Action Plan). The AWG-LCA, at its third session, requested the secretariat, under the guidance of the Chair and in consultation with Parties, to organize a workshop at its fifth session on subparagraphs 1 (b) (i) and 1 (b) (ii) of the Bali Action Plan.¹
2. As agreed at the third session of the AWG-LCA, the workshop was organized in two parts, each dealing with one of these subparagraphs and together covering the substance of both subparagraphs in their entirety.²
3. This note by the Chair of the AWG-LCA, Mr. Michael Zammit Cutajar, who also chaired the workshop, summarizes the presentations, exchange of views and discussions by Parties at the workshop. Background to the discussions in the workshop was provided by submissions from Parties;³ by the assembly document⁴ and the focus document,⁵ prepared for the fourth and the fifth sessions, respectively, of the AWG-LCA; and by the Chair's summaries of views expressed at the previous sessions of the AWG-LCA.⁶
4. At the closing of the workshop, the chair summarized the main points presented and indicated that the discussion on subparagraphs 1 (b) (i) and 1 (b) (ii) will continue in the follow-up meetings of the contact group on enhanced actions on mitigation and its associated means of implementation.

II. Summary of discussions**A. Measurable, reportable and verifiable nationally appropriate mitigation commitments or actions, including quantified emission limitation and reduction objectives, by all developed country Parties, while ensuring the comparability of efforts among them, taking into account differences in their national circumstances**

5. The presentations and discussion during the first part of the workshop on subparagraph 1 (b) (i) of the Bali Action Plan covered a wide range of issues relating to:
 - (a) The level of ambition of mitigation action by developed country Parties;
 - (b) Scope and form of nationally appropriate mitigation commitments or actions by developed country Parties;
 - (c) Comparability of efforts and national circumstances;
 - (d) Measurement, reporting and verification of commitments or actions.

¹ FCCC/AWGLCA/2008/3, paragraph 26.

² FCCC/AWGLCA/2008/12 and Corr.1, paragraph 34.

³ FCCC/AWGLCA/2009/MISC.1 and Add.1-3.

⁴ FCCC/AWGLCA/2008/16/Rev.1.

⁵ FCCC/AWGLCA/2009/4 (Parts I and II).

⁶ FCCC/AWGLCA/2008/6, FCCC/AWGLCA/2008/11, FCCC/AWGLCA/2008/13 and FCCC/AWGLCA/2009/3.

6. Presentations were made by Brazil on behalf of the Group of 77 and China, the Czech Republic on behalf of the European Community and its member States, Barbados on behalf of the Alliance of Small Island States, Bolivia, New Zealand, South Africa, India, the United States of America, Turkey and China. The following Parties made interventions and participated in the discussions: the Philippines, Algeria, India, Solomon Islands, Turkey, Togo, Canada, Brazil, Croatia, Saudi Arabia, South Africa, Slovenia, Ecuador, Barbados and the Russian Federation. A statement was made by a representative from the Sustainable Markets Foundation.

7. The debate was characterized by the sense of urgency to act on mitigation in order to limit the increase in the global mean surface temperature to 2 °C and to prevent or alleviate the adverse impacts of climate change, consistent with the findings in the Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC). In that context, Parties proposed that a collective effort by developed countries to reduce their greenhouse gas (GHG) emissions should lead to a reduction in their emissions of not less than 40 per cent, 25 to 40 per cent or 30 per cent below 1990 levels by 2020.

8. A group of Parties noted that the scientific findings that have become available since the publication of the AR4 show the feasibility of following lower stabilization mitigation scenarios that would limit the increase in global surface temperatures to below 1.5 °C. They urged Parties included in Annex I to the Convention (Annex I Parties) to collectively reduce their GHG emissions by more than 40 per cent below 1990 levels by 2020 and by more than 95 per cent by 2050. They stressed that the extent of adverse impacts on the most vulnerable developing countries will depend on the timeliness and level of ambition of the action undertaken by developed countries.

9. Parties concurred that developed country Parties should take the lead in modifying longer-term trends in GHG emissions, consistent with the objective and provisions of the Convention, through ambitious mitigation commitments or actions. Some Parties emphasized that commitments of developed country Parties should take the form of binding quantitative economy-wide emission reduction commitments, noting that enhanced mitigation action under the Convention should not detract from the commitments of developed country Parties under the Kyoto Protocol. A few Parties noted the importance of defining the time when global emissions should peak and the possibility of several pathways to the same long-term emission reduction goal.

10. There were suggestions that the overall level of ambition for the climate regime should be set under the AWG-LCA, including a collective target for all Annex I Parties in aggregate and also targets for those Annex I Parties that are not Parties to the Kyoto Protocol.

11. One Annex I Party made a presentation on its proposed national actions which would be binding domestically, including an increase in the provision of funding for clean energy. A question was raised as to how such national actions would relate to the UNFCCC process.

12. Some Parties commented on the means to implement commitments by Annex I Parties, including on the share of offsets in the implementation of those commitments, the role and use of emission credits from the first commitment period under the Kyoto Protocol; the role of credits from the land use sector; and domestic mitigation efforts being undertaken in developed countries.

13. Several Parties highlighted the importance of the historical responsibility of developed country Parties for climate change. In this context, one Party stated that developed countries owe a historical debt to developing countries because of their over-use of the atmospheric resource, which now limits the carbon space for developing countries, further noting that the aim should be “living well”. The need for changing consumption/production patterns in developed countries was mentioned in this respect.

14. The importance of comparability of efforts among developed country Parties was highlighted by many Parties. Some Parties noted the need for a balanced set of criteria on comparability. At the same

time, Parties expressed diverse views on how to define such criteria. For example, some Parties suggested using the capability to pay, mitigation potential, the factor of early action, population trends and total GHG emissions as possible comparability criteria while others suggested that an important criterion was historical responsibility.

15. Some Parties stressed that comparable effort requires all Annex I Parties to take the same form of legally binding commitments, use the same base year definitions as those adopted under the Kyoto Protocol and assume a comparable level of GHG emission reductions among all Annex I Parties.

16. One Party presented a tool for estimating the costs of achieving emission reduction targets and noted that understanding the costs can help to make an international agreement acceptable in the country concerned. This Party also noted that such a tool could be used for comparability assessments.

17. An Annex I Party referred to decision 26/CP.7 and described its particular situation under the Convention, noting the many similarities with developing country Parties. In view of this situation, the Party emphasized that the enhanced climate change regime should be flexible, take national circumstances fully into account, and be acceptable to all Parties.

18. In the discussion on measurement, reporting and verification, some Parties highlighted the need to use a system for monitoring compliance with commitments undertaken by developed country Parties. An establishment of a technical panel on comparability that would report to both the Conference of the Parties (COP) and the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol was suggested in this regard. There were suggestions to use GHG inventories and national communications submitted by Annex I Parties as tools for measurement, reporting and verification of commitments or actions.

19. Regarding how to measure, report and verify mitigation commitments or actions, most Parties suggested building upon the existing provisions under the Kyoto Protocol. Several Parties made references to the relevance of Articles 5, 7 and 8 to procedures related to measurement, reporting and verification.

B. Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner

20. The second part of the workshop addressed subparagraph 1 (b) (ii) of the Bali Action Plan. The presentations and ensuing discussion covered a wide range of issues relating to nationally appropriate mitigation actions (NAMAs) by developing country Parties, including:

- (a) The nature and scope of NAMAs by developing countries in the context of sustainable development and their contribution to enhanced action on mitigation in accordance with their capabilities and national circumstances;
- (b) The scope and functions of a mechanism to recognize NAMAs and facilitate the matching of actions with support;
- (c) Measurement, reporting and verification of actions and support.

21. Presentations were delivered by Barbados on behalf of the Alliance of the Small Island States, Brazil on behalf of Group of 77 and China, the Czech Republic on behalf of the European Community, the United Republic of Tanzania on behalf of the least developed countries (LDCs), South Africa, Japan, India, the Republic of Korea, Singapore, China and Saudi Arabia. The following Parties made interventions and/or participated in the discussion: the Philippines, Papua New Guinea, Canada, Algeria, the Islamic Republic of Iran, Pakistan, India, New Zealand, Samoa, Australia, the United Kingdom of Great Britain and Northern Ireland, Guatemala, Benin, Nicaragua and Germany. Statements were also

made by representatives from the Tebtebba Foundation on behalf of the indigenous peoples' organizations, by Third World Network and by Friends of the Earth International.

22. Parties noted that NAMAs should be implemented in accordance with the principles of the Convention and support the goals of sustainable development and poverty eradication. Parties also stressed that enhanced support in the form of technology, financing and capacity-building, provided in a measurable, reportable and verifiable manner, is essential for enhanced mitigation actions by developing country Parties. Some Parties emphasized that the extent of mitigation actions taken by developing countries will depend on the effective provision of financial and technological support by developed countries, as enshrined in Article 4, paragraphs 3 and 7, of the Convention.

23. Several Parties, while acknowledging that developed countries should take the lead in the global mitigation effort, noted that NAMAs by developing country Parties should also contribute to enhanced action to mitigate climate change in accordance with countries' capabilities and national circumstances. Many developing country Parties pointed out their readiness and, indeed, their need, to pursue a clean development path with the goal of reaching a significant deviation from an emission baseline. A group of Parties pointed out that developing NAMAs can also be seen as a means for small island developing States and LDCs to realize their sustainable development aspirations.

24. Regarding the level of ambition for NAMAs, another group of Parties suggested that developing countries as a group could contribute in a manner consistent with a level of ambition equating to a 15–30 per cent deviation from a GHG emissions baseline by 2020 in order to keep the global temperature increase below 2 °C. Some other Parties challenged this view, questioning the assumptions underlying these numbers.

25. Many Parties noted that developing countries have already been engaging in mitigation efforts. The importance of international recognition for NAMAs by developing country Parties was highlighted. Parties sought greater clarity on what such international recognition would actually mean and what it might imply for both mitigation actions by developing country Parties and the provision of support by developed country Parties. It was also pointed out that there is already some recognition of NAMAs on the basis of information available through national communications, for example.

26. Several presentations and interventions addressed the nature and scope of NAMAs. On one hand, it was emphasized that their nature should be distinct from the nature of commitments of developed countries and that they should not constitute binding obligations or targets for developing countries, or be a basis for differentiating among them. On the other hand, it was suggested that NAMAs should be different for different groups of countries, depending on the level of development of their economies and capacities. Some Parties used the term "advanced developing countries" in the context of enhanced mitigation actions, while others questioned the use of this term, arguing that it is not defined under the Convention.

27. On the question of what should be considered NAMAs, some Parties suggested that NAMAs can be broadly classified into three categories: (1) actions undertaken unilaterally by developing countries; (2) actions undertaken with international support; and (3) actions rewarded through international carbon crediting mechanisms. Other Parties argued that NAMAs can only be those actions supported by developed countries in meeting the "agreed full incremental costs" of such actions in accordance with provisions of the Convention.

28. Many Parties highlighted that NAMAs should be determined and formulated at the national level (through a "bottom-up" approach), on a voluntary basis. Some Parties pointed out that their national circumstances, such as size, economic development (e.g. in the case of LDCs) or having limited opportunities to use alternative energy sources, do not allow them a wide range of policy options.

29. Parties maintained that NAMAs can range from individual projects in the context of Article 12, paragraph 4, of the Convention to mitigation programmes and strategies. It was suggested that sustainable development actions that also reduce emissions should also be considered NAMAs. A list of examples of specific NAMAs (a “tool box”) presented included sustainable development policies and measures, reducing emissions from deforestation and forest degradation, programmatic clean development mechanism as well as no-lose sectoral crediting mechanisms.

30. It was further proposed that individual NAMAs should be integrated into “low-carbon development strategies” by all developing country Parties by 2012. It was also proposed that NAMAs should be considered in the context of national mitigation programmes and plans that should be periodically reported to the COP. Some Parties expressed concern that setting provisions for such strategies or plans might lead to requirements and conditions for developing countries.

31. A number of presentations were made on a mechanism that would provide international recognition of NAMAs and match actions with support. This mechanism would incorporate features of a NAMA registry initially proposed by South Africa and the Republic of Korea. Saudi Arabia has proposed a support and accreditation mechanism (SAM) under the COP that would provide for registration of NAMAs, matching actions with support from the Convention financial mechanism and crediting NAMAs. The issues raised during discussion of these proposals included the purpose and possible functions of such a mechanism, the type of NAMAs it would register, the information that would be required for each NAMA, as well as measurement, reporting and verification requirements for registration of actions and support.

32. With regard to the purpose and possible functions of such a mechanism, some Parties were of the opinion that it should provide a process for matching action with support and for ensuring an efficient process to direct support, taking into account the associated emission reductions and capabilities of different countries. These Parties suggested that such a mechanism could provide an opportunity for crediting NAMAs. Other Parties suggested that any system to register NAMAs should be distinct from the system established for the provision of support. It was also suggested that provision of support and matching of support with actions should be operationalized within the context of a future financial mechanism under the Convention. Parties stressed that further clarification and discussion are needed regarding the functions of the proposed mechanism, particularly the possible function of matching action with support.

33. In this context, Parties discussed how support for actions would be sequenced, including whether, and under what circumstances, financial resources should be provided up front or after the supported mitigation action has been carried out. It was proposed that rather than address sequencing, Parties should focus on developing means (possibly through the mechanisms mentioned above) to match action with support in order to ensure most efficient delivery.

34. In relation to the requirement to measure, report and verify mitigation actions by developing countries, it was stressed that this should incorporate the need to assess contributions made to overall GHG emission reduction; while other Parties stated that only the effects of individual actions supported by finance and technology should be measured and reported. Some Parties suggested that procedures for this should be developed, drawing on the experiences gained from the UNFCCC process, including in using IPCC methodologies. In this regard, some Parties stressed that improved GHG emission data at a national and sectoral level, including annual emission inventories, would be an important basis for measuring, reporting and verifying NAMAs as well as for monitoring the contribution of NAMAs to the overall mitigation effort.

35. The question was raised as to whether all actions should be verified by national entities and in accordance with national procedures, or whether verification should be carried out under the auspices of the UNFCCC. It was suggested that nationally funded actions can be verified at the national level but in

accordance with internationally agreed guidelines or procedures, and that actions implemented with external support can be verified at the international level. One Party suggested that requirements for measurement, reporting and verification both for actions and for support should be defined within contractual agreements between a developing country Party and the financial mechanism of the Convention.

36. Parties also commented on several other issues, including ways for the carbon market to evolve beyond an offset mechanism; the roles of different sources of financial support, as well as the nature of support; quantified funding targets for mitigation and adaptation; and the idea of establishing an advisory group for sectoral technology cooperation.

Annex III**Report on the workshop on opportunities and challenges for mitigation in the agricultural sector****Summary by the chair of the workshop****I. Introduction**

1. The Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA), at its third session, requested the secretariat to organize a workshop at its fifth session on opportunities and challenges for mitigation in the agricultural sector.¹
2. The approach of the workshop, as well as its structure, has been outlined in the scenario note and in the provisional agenda and annotations for the fifth session of the AWG-LCA.²
3. The workshop was held in Bonn, Germany, on 4 April 2009 and was chaired by the Rapporteur of the AWG-LCA, Ms. Lilian Portillo. This note by the chair summarizes the presentations, exchange of views and discussions by Parties at the workshop.
4. An introductory presentation was made by the secretariat on a technical paper on challenges and opportunities for mitigation in the agricultural sector,³ prepared in response to a request by the AWG-LCA at its second session.⁴ The paper addresses the global mitigation potential of the sector, mitigation practices in different agricultural sub-sectors, related policies and measures and possible issues for further consideration.
5. Presentations were made by the following nine Parties: Bangladesh, the Czech Republic on behalf of the European Community and its member States, Japan, Mexico, New Zealand, Samoa, Senegal, the United States of America and Uruguay. The Intergovernmental Panel on Climate Change (IPCC) and the Food and Agriculture Organization of the United Nations also made presentations. The workshop was open to all Parties and observers.
6. An exchange of views took place after the presentations. Statements and comments were made by Argentina, Australia, Bangladesh, Benin, Brazil, Chile, the Czech Republic on behalf of the European Community and its member States, Guatemala, Indonesia, Nicaragua, Philippines, Saudi Arabia, Thailand and Uganda. At the end of the workshop, the chair invited observer organizations to make statements. Four short interventions were made by the United Nations Convention to Combat Desertification, the International Federation of Agricultural Producers from the constituency of business and industry non-governmental organizations, Tebtebba (Indigenous Peoples' International Centre for Policy Research and Education) on behalf of indigenous peoples organizations and the Third World Network from the constituency of environmental non-governmental organizations.

II. Summary of discussions

7. The discussions focused on enhancing understanding opportunities and challenges for mitigation in the agricultural sector and on cooperative actions in this sector. Issues addressed included: global mitigation potential and costs; policies and measures and other mitigation practices aimed at reducing

¹ FCCC/AWGLCA/2008/12, paragraph 35.

² FCCC/AWGLCA/2009/2, paragraphs 9 and 10, and FCCC/AWGLCA/2009/1, annex I.

³ FCCC/TP/2008/8.

⁴ FCCC/AWGLCA/2008/8, paragraph 28 (a).

emissions from livestock; manure management and crops and soils; and related development and transfer of technologies and innovative financing.

8. Parties noted that agriculture is responsible for about 14 per cent of total global anthropogenic greenhouse gas (GHG) emissions and is expected to have high emission growth rates, driven mainly by population and income increase, diet and technological changes. Agriculture also has considerable technical mitigation potential (depending on national and regional circumstances), mostly in sequestration of carbon in agricultural soils, followed by methane and nitrous oxide reductions resulting mainly from livestock and rice cultivation. The main drivers mentioned for decreases in GHG emissions were increased land and livestock productivity, conservation tillage and some non-climate policies influencing the agricultural sector. In particular, the increase in agriculture productivity and efficiency was mentioned by several Parties as key to limiting GHG emissions in this sector.

9. About 70 per cent of the economic potential for mitigation is in developing countries, where the agricultural sector is often a significant source of GHG emissions but also a primary source of employment. Therefore, nationally appropriate mitigation actions (NAMAs) could be implemented in this sector in the context of national mitigation strategies and sustainable development. Several developing country Parties highlighted activities and plans they are already undertaking. The extent to which they would be able to scale up these activities depends on technology, financing and capacity-building support received for implementing NAMAs.

10. Significant mitigation potential also exists in developed countries. The agricultural sector is already being considered in Parties' emission reduction strategies; some have commenced work to include agriculture in carbon trading schemes. One Party mentioned that, as a result of mitigation measures, GHG emissions from the sector decreased while production increased. Other Parties mentioned energy-saving technologies for agricultural machinery, reduction of fertilizer use, prolonged mid-season drainage for rice paddies, providing incentives and rewarding financing schemes for applying good practices.

11. Some Parties noted the challenges in implementing practices and programmes for mitigation in agriculture, which include technical, social, economic and environmental aspects. One of the challenges highlighted relates to the need for increases in food production to correspond to the growing global population. However, Parties also noted that mitigation in agriculture presents many opportunities, co-benefits and trade-offs which ought to be taken into account.

12. Another challenge relates to the high level of uncertainty in emission estimates, the limited information available for establishing baselines, and the high costs of measurement and monitoring of emission reductions. Risk of loss of carbon stored because of changes in soil carbon management was also mentioned. Some Parties noted their lack of capacity and tools to enable accurate and direct GHG measurement methods and the need for international cooperation on sustainable agricultural systems.

13. One Party noted that there is a lack of scientific and technical knowledge to design, implement and sustain adaptation actions in the agricultural sector and stressed the need for enhanced investment in research and development, including joint development of technologies.

14. It was noted that traditional wisdom, practices and culture, including the impact on indigenous and local communities, have to be taken into account when considering mitigation practices for the agricultural sector.

15. Although the economic mitigation potential is significant in the agricultural sector, there are barriers to this potential being realized. Examples include a low level of understanding of the complex systems that emit and sequester GHGs, high cost and low availability of technologies, market failures, distorting competitiveness, the need to estimate and verify emission reductions, and the need to change

consumer preferences. Options identified for removing barriers include: developing and providing access to cost-effective, robust technologies; innovative financing; developing appropriate methods for measurement, verification and reporting of the emissions; and increasing capacity-building and sharing scientific information and best practices.

16. On the subject of opportunities, it was mentioned that many of the mitigation options can be realized at low or even negative cost, resulting in win-win situations. For example, co-benefits may include increasing food security and productivity or enhancing climate change resilience. Presentations highlighted several such opportunities: the production of syngas from solid waste coconut biomass; the use of biochar to fertilize soil; and agronomic practices to reduce water and energy use.

17. Several Parties stressed the synergy between mitigation in agriculture, adaptation, sustainable development, food security, poverty alleviation, sustainable development and energy security. Examples of this include the positive correlation between mitigation in agriculture and: water storage capacity in soils; reduced soil degradation and erosion; and reduced vulnerability to climate change. In many cases mitigation and adaptation are intertwined and must be addressed simultaneously.

18. A combination of existing and new sources of financing, including carbon market instruments and investments, technology transfer and deployment, and capacity-building, are also needed for enhancing mitigation of GHG emissions in the agricultural sector and to help farmers at the local level engage in mitigation practices. In particular, key requirements include greater aggregation capacity among a large number of farmers; flexible and innovative payment schemes or institutions that address risks, investments and cash-flow needs; supportive policies and institutions and consideration of the needs of indigenous and local communities; and simplified rules and transaction costs.

19. Parties expressed a need to enhance North–South as well as South–South cooperation in order to realize the potential of the opportunities for mitigation in agriculture. South–South cooperation, including the sharing of information on mitigation practices, was said to be particularly important for developing countries with similar circumstances. In this regard, Parties also need to develop national mitigation strategies for their agricultural sectors, taking into account national circumstances and links with regional and global actions in agriculture.

20. One Party proposed that a virtual world research centre on mitigation strategies in agriculture be established to increase the scale of global research investment, to coordinate existing research initiatives, and to speed up development and diffusion of new technologies. Several Parties noted that agricultural mitigation activities carried out in particular regions should qualify as collaborative sectoral approaches and sector-specific actions.

21. Some Parties stated that eliminating subsidies and significantly reducing tariffs are necessary for sustainable production and reducing emissions from agriculture. Trade barriers and protectionist policies should be reduced in order to allow those countries that could produce agricultural products with low levels of GHG emissions to benefit from competitive advantages derived from local circumstances.

22. Some Parties mentioned the link between mitigation in agriculture and reduced emissions from deforestation and forest degradation in developing countries (REDD). One Party noted that a successful REDD mechanism would require an increase in agricultural productivity to achieve more production from the same area of land and thus ensure food security. Another Party proposed that any future mechanism on REDD be extended to include agriculture and thus ensure a comprehensive approach for terrestrial carbon and avoid perverse incentives.

23. It was noted that more information and disaggregated data on the regional and national level are still needed in order to improve the assessments of the agricultural sector and the development of reliable

national baselines; nevertheless, although these methodologies may be complex, there is enough information to act.

24. In general, robust systems must be developed for measuring, reporting and verifying actions in this sector, where uncertainties are relatively high. Methodologies need to be developed to measure, report and verify the impact of mitigation and adaptation policies and measures in the agricultural sector. Some Parties stressed that financial support is needed for capacity-building in this sector, including for the development of such a system.

25. It was noted that methodologies exist for measuring, reporting and verifying the sources and sinks in this sector. On the estimation of GHG emissions from agriculture, it was mentioned that IPCC guidelines provide the best information available. However, there is a need to develop country-specific emission factors and to improve capacity for measuring emissions and removals in line with the IPCC guidelines.

26. One Party expressed support for a phased approach to conducting a set of coordinated national-level pilot activities to validate methodologies for agricultural mitigation and data collection in parallel with capacity-building, technology development and innovative financing. Pilot activities were seen as important steps to reduce costs and risks by, for example, testing ways to address permanence of sinks and leakage risks.

27. Several Parties stressed the importance of including agriculture in the mitigation actions to be enhanced by an agreed outcome in Copenhagen. This should be done mainly through NAMAs in developing countries and other mitigation actions by developed countries. Several views were expressed regarding the necessity for international cooperative action to enhance mitigation of GHG emissions from agriculture, including the consideration of some of the measures identified in this report.
