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气候变化框架公约

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附属科学技术咨询机构

第二十九届会议

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议程项目 3

关于气候变化影响、脆弱性和适应的内罗毕工作方案

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主席提出的结论草案

1. 附属科学技术咨询机构(科技咨询机构)欢迎截至其第二十八届会议在执行关于气候变化影响、脆弱性和适应的内罗毕工作方案方面取得的进展，并注意到关于气候建模、假设情景和缩小尺度问题研讨会的报告¹、两份技术文件²及第二十八届和第二十九届会议期间的进度报告。³

2. 科技咨询机构承认内罗毕工作方案所起的催化作用，并对已经采取或说明打算采取行动、支持内罗毕工作方案目标的各组织表示感谢。科技咨询机构鼓励各组织为此而进一步加强努力，包括提出行动保证。科技咨询机构注意到，这些组织所采取的行动促进了对内罗毕工作方案九个工作领域之下的科学技术知识的了解。

¹ FCCC/SBSTA/2008/9。

² FCCC/TP/2008/3 和 FCCC/TP/2008/4。

³ FCCC/SBSTA/2008/INF.5。

3. 科技咨询机构强调，为了促进了解决策者容易和有效地使用的各项措施，有关适应信息的用户和提供者之间的伙伴关系和对话十分重要，很有潜力。

4. 咨询机构赞赏地注意到科技咨询机构主席在本届会议上召开的介入执行内罗毕工作方案的各组织和机构联络点第二届论坛。

5. 咨询机构审议了是否可能需要一个专家小组，以及该小组在执行和进一步发展内罗毕工作方案方面可能发挥的作用的问题。科技咨询机构认识到，《气候公约》专家名册和介入执行内罗毕工作方案的组织和机构联络点提供了宝贵的专门知识的来源。科技咨询机构请缔约方扩大专家名册，以确保代表与关于气候变化影响、脆弱性和适应的内罗毕工作方案相关的所有专门知识领域，包括那些充分反映区域和地方问题的专门知识领域。科技咨询机构商定在第三十二届会议上继续审议这一问题。

6. 咨询机构赞赏地注意到截至其第二十八届会议期间的内罗毕工作方案执行结果摘要(下称摘要报告)。⁴ 在审议了摘要报告详细载述的目前状况、差距、需求和建议之后，科技咨询机构注意到，所有九个工作领域都仍然存在差距和需求。

7. 咨询机构回顾，第二十八届会议前所完成活动的成果可能包含在审议附属履行机构(履行机构)相关议程项目方面对缔约方有用的信息。⁵ 因此，科技咨询机构向履行机构提供附件所载执行内罗毕工作方案引起的相关信息和咨询意见，供履行机构酌情审议。

8. 咨询机构请秘书处在科技咨询机构主席的指导下，在开展内罗毕工作方案第二阶段授权活动之时，考虑到摘要报告中所载的相关信息。科技咨询机构还请主席便利在科技咨询机构的工作中，在其他相关议程项目之下以及酌情在未来届会上考虑这一信息。

9. 咨询机构请各缔约方、相关组织和其他利害关系方，包括参与执行内罗毕工作方案和其他有关活动的相关组织和其他利害关系方，在其活动中考虑到摘要和有关报告⁶中所载的相关信息，并与科技咨询机构分享这些活动的成果。

⁴ FCCC/SBSTA/2008/12。

⁵ FCCC/SBSTA/2008/6, 第 21 段。

⁶ 有关报告指该报告中所指编写摘要报告所用的文件。

Annex

[ENGLISH ONLY]

Relevant information and advice emerging from the implementation of the Nairobi work programme on impacts, vulnerability and adaptation to climate change in its first phase

1. This annex contains relevant information and advice on the scientific, technical and socio-economic aspects of impacts, vulnerability and adaptation to climate change emerging from the implementation of the first phase of the Nairobi work programme on impacts, vulnerability and adaptation to climate change.¹ It is noted that the implementation of the second phase of the Nairobi work programme takes into consideration the information contained in this annex, where relevant.²

Methods and tools

2. Integrated assessments are viewed as a useful way to comprehensively assess social, economic and environmental impacts of climate change, accounting for the interaction between climate change and other processes.

3. The existence of numerous gaps and needs prevents methods and tools from being widely disseminated and applied. Gaps include lack of sufficient data, capacity, proper information and guidance on available methods and tools, including the associated uncertainties and limitations.

4. The identified needs include improved capacity for local and sectoral assessments; integrated assessments at the subnational and national levels; integration of bottom-up and top-down approaches; better quantification of the costs and benefits of adaptation; and user-specific guidance on the application of the many available methods and tools.

5. Means for enhancing the dissemination of methods and tools include establishing and strengthening existing user networks to share expertise and experiences in the application of methods and tools; and establishing mechanisms to enable the comparison of methods and tools.

Data and observations

6. There is a general understanding that the major challenge with regard to data and observations is not necessarily establishing an observation network, but rather maintaining it on a long-term and sustained basis after external funding ceases, and sharing the resulting data.

7. Identified data needs, particularly in developing countries, include the need for support for data collection and recovery of historical data, the need to improve the collection, management and use of data at the regional level, and the need for enhanced access to global, regional and national data.

8. In terms of observations, there is a need to improve systematic observation and monitoring systems in order to better understand the impacts of climate change, including by expanding coverage and increasing density, and for raising awareness among policymakers of the need for strengthened national meteorological and hydrological services.

¹ The information and advice is drawn from document FCCC/SBSTA/2008/12.

² The activities to be undertaken during the second phase of the Nairobi work programme are contained in document FCCC/SBSTA/2008/6, paragraphs 10–74.

9. Human capacity for analysing and generating data also needs to be built through training and education programmes, including improving understanding of uncertainties associated with the use of data and models.

10. Means for improving the capacity for collecting, managing and using observational data include undertaking a comprehensive stocktaking of the climatic and non-climatic data holdings at the national level and, based on this assessment, developing integrated management and collection systems capable of providing the information required for adaptation.

Climate modelling, scenarios and downscaling

11. Advances have been made in the methods for downscaling, model resolution, the simulation of processes of importance for regional change and in expanding the set of available simulations.

12. Gaps remain with respect to spatial and temporal resolution and uncertainties of scenarios and model outputs. These gaps have put constraints on the development of regional/subregional climate scenarios aiming at supporting policy-relevant impact and vulnerability assessments. Capacity-building is needed to understand the context and limitations of climate model outputs given the variety of assumptions on which models are based. There is also a need for a dialogue between the climate science community and adaptation practitioners, including policymakers, with a view to determining requirements and parameters for modelling activities so that model outputs become more policy-relevant.

13. Means for enhancing the development of regional and subregional climate scenarios include promoting regional centres and networks to ensure smooth knowledge sharing and transfer, collaboration on scenario development using various models, and capacity-building at regional and national levels.

14. Efforts to quantify and reduce uncertainty within and across models should be continued in order to increase the accuracy of future projections and the representation and communication of uncertainties should be improved to ensure credibility of model outputs and climate data.

Climate-related risks and extreme events

15. One of the lessons learned is that the disaster risk reduction approach to risk assessment should be taken, as it focuses on the prediction and reduction of impacts.

16. Traditional knowledge can complement other scientific sources of knowledge. Greater integration and use of such knowledge is needed in the assessment and management of climate-related risks, particularly through partnerships with grass-roots organizations.

17. Gaps remain relating to the assessment, prediction and management of climate-related risks and impacts, including uncertainties in the prediction of climate variability and extreme events and a lack of response systems for identified risks. Needs identified include better integration of disaster risk reduction and adaptation to climate change into national sustainable development policies and plans, and better methods and tools to predict, manage and reduce impacts. Another gap is the limited availability and accessibility of risk-sharing mechanisms, such as insurance, in the most vulnerable countries.

18. Means for enhancing the assessment and prediction of climate-related risks and impacts include better provision of data at the national, regional and global levels, and continuous access for users to relevant data archives and databases.

Socio-economic information

19. Socio-economic information can highlight the different exposures to climate threats and the adaptive capacities of regions, countries and communities.

20. Socio-economic information lags behind biophysical and meteorological information in terms of quality, availability and accessibility. A major gap is the lack of spatially differentiated socio-economic information, especially at the subnational scale. Even when socio-economic information is available, its applicability for adaptation planning is limited. Data are often collected in inconsistent formats, disseminated on aggregate scales, dispersed in terms of their location, and not available in formats usable for vulnerability and impact assessments and adaptation planning. Further efforts are needed to improve the integration of qualitative socio-economic information into assessments.

21. Means for integrating socio-economic information into impact and vulnerability assessments include developing an open dialogue between providers and users of information in order to tailor information to specific data needs, developing guidance on the use of existing data and packaging the information so that it is of relevance to the decision-making processes, and developing information on costs and benefits of adaptation options.

Adaptation planning and practices

22. Lessons learned include using current exposure to natural hazards and climate variability as an entry point for adaptation; using case studies and guidelines to engage stakeholders; and the importance of understanding, valuating and incorporating indigenous and local knowledge and technologies.

23. Despite some advances many gaps and needs remain. For example, there is a gap between adaptation assessment and planning, on the one hand, and implementation on the other. This is due to a number of constraints including lack of capacity, data, information and resources. Uncoordinated sectoral responses can be ineffective or even counterproductive because responses in one sector can increase the vulnerability of another sector and/or reduce the effectiveness of adaptation responses taken in that sector. Hence there is a need to adopt a cross-sectoral approach to adaptation as part of an overall sustainable development strategy.

24. Conceptual frameworks for adaptation could assist in identifying the range of available adaptation options while at the same time providing for flexibility and redesign of options as more clarity emerges regarding the level of change or impacts to which different sectors and levels need to adapt.

Research

25. Needs identified regarding understanding impacts and vulnerabilities include reducing uncertainty in the sensitivity of the climate system, enhancing the connections between General Circulation Models and regional models to improve the performance of regional climate change models, and enhancing the validation of climate models with observations of essential climate variables.

26. In terms of facilitating adaptation planning and implementation, research needs include understanding and reducing economic, technical, social and institutional barriers to adaptation as well as better understanding of various adaptation options, including through identifying and assessing costs, benefits and potential trade-offs. Efforts also need to be made to develop adaptation scenarios for different greenhouse gas stabilization levels and assumptions.

Technologies for adaptation

27. Technologies for adaptation include hard technologies, such as drought-resistant crop varieties, seawalls and irrigation technologies, or soft technologies, such as crop rotation patterns. Many technologies have both hard and soft characteristics, and successful adaptation action would typically combine the two.

28. Traditional technologies and know-how are key to technologies for adaptation; they already exist and are suitable for many developing countries, and they can potentially be improved by local communities.

29. Many gaps and needs remain which constrain the widespread application of technologies for adaptation. Needs include building adequate human, technical and institutional capacity to diffuse and employ technologies; improving information and awareness-raising among all stakeholders, including communities; and providing sufficient financial resources.

Economic diversification

30. Concerns exist over the difficulty of undertaking economic diversification, particularly in countries where national circumstances make alternative economic activities difficult.

31. Public participation is needed in all the processes that increase resilience of, and decrease reliance on, vulnerable sectors; in this regard the private sector plays a key role.

32. Gaps and needs include the need for improved tools for modelling and assessment of vulnerability to climate change impacts in the context of economic diversification. There is a lack of models that link predictions of physical impacts to input-output models in order to assess sectoral vulnerability, although these are necessary for effective economic diversification.

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