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Dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention
Third workshop
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Dialogue working paper 4 (2007)

Addressing action on adaptation

Background paper by the secretariat

Summary

This paper has been prepared by the secretariat in consultation with the co-facilitators of the dialogue. It is intended to facilitate the exchange of views on adaptation, during the third workshop under the dialogue. It presents elements for further consideration relating to, among others, increasing adaptive capacity; supporting mainstreaming adaptation into national planning; future funding and other support paradigms; the role of technologies; and the need for a holistic, crosscutting and integrated approach to adaptation.

I. Introduction

A. Firm scientific basis for urgent action

1. The recent findings of the Intergovernmental Panel on Climate Change that are contained in its Fourth Assessment Report (AR4) regarding the state of science on climate change provide a solid foundation for informed policymaking. According to the AR4, there is an urgent need to mitigate the growth of greenhouse gas (GHG) emissions in the atmosphere. However, even under the most optimistic GHG mitigation scenarios, there will still be a need for adaptation, since with current GHG concentrations the world is already facing a certain level of future climate change and associated impacts.

2. The implications of both gradual and sudden changes in climate are important with regard to the adaptation of ecosystems and humans to the climate. Adaptation to the adverse effects of climate change is of high priority for all countries. Developing countries are particularly vulnerable, especially the least developed countries and small island developing States. At the same time, these are the countries that have contributed the least to the problem.

B. Adaptation in the context of sustainable development and future cooperative action

3. The impacts of climate change will pose a significant barrier to sustainable development and the achievement of the Millennium Development Goals. In particular, for the most vulnerable communities, climate change impacts pose a direct threat to survival, either directly through the devastating effects of sudden onset events on human settlements and infrastructure, or indirectly through longer-term impacts on sectors essential for human livelihood, such as water resources, food security and health. It is therefore imperative that any future climate change regime address adaptation action as an integral component of its architecture to avoid negative global consequences. Such action would need to include special support for the most vulnerable countries. The magnitude of long-term adaptation action that will be needed will, in large part, be dependent on the success of global climate change mitigation. Nevertheless, given the difficulty in precisely attributing specific climatic events to anthropogenic climate change, adaptation efforts will need to be geared towards responding to current climate risks and variability, with a view to enhancing the capacity to adapt to future climate change impacts.

4. International cooperative action on adaptation falls under three main domains:

(a) Scientific, technical and socio-economic underpinnings of adaptation policy;

(b) Financial assistance to vulnerable developing countries;

(c) Adaptation measures.

C. Current international efforts to support adaptation

5. Article 4, paragraph 1(b) of the Convention commits all Parties to formulate, implement, publish and update adaptation measures. The Convention provides for a variety of support mechanisms to foster the implementation of adaptation in developing countries, including through the provision of funding, insurance and technology transfer. Negotiations on the operationalization of these mechanisms are ongoing and there are already three sources of funding for adaptation through the Global Environment Facility (GEF): the GEF Trust Fund; the Special Climate Change Fund; and the Least Developed Countries Fund. Adaptation projects implemented under these funds are being operationalized by the implementing and executing agencies of the GEF. Additional funding is forthcoming through the Adaptation Fund under the Kyoto Protocol. However, given that the World Bank estimates suggest that the additional cost of adaptation is likely to be in the range of USD 4–37 billion per year, the current available funding under the UNFCCC process is not likely to be sufficient to cover these needs. In addition, the Stern Review on the economics of climate change has indicated that the cost of inaction on climate change far outweighs the cost of action.

6. The national adaptation programme of action (NAPA) process provides for a simplified methodology for a rigorous assessment of urgent adaptation needs in the LDCs. The outcome of the process is a prioritized list of proposed adaptation actions, which is arrived at through a multi-stakeholder bottom-up assessment, and which, based on current vulnerabilities and adaptive capacities, aims to expanding the coping range of communities which will have to face the threat of foreseeable climate change impacts. Most LDCs are still in the process of preparing their NAPAs, and very few projects resulting from these assessments have so far been proposed for implementation.

7. The Nairobi workprogramme on impacts, vulnerability and adaptation to climate change has the objective of assisting countries to understand and assess impacts, vulnerability and adaptation, and to make informed decisions on practical adaptation actions and measures. The work programme is structured into the work areas of methods and tools; data and observations; climate modelling, scenarios and downscaling; climate related risks and extreme events; socio-economic information; adaptation planning and practices; research and technology for adaptation; and economic diversification.

8. Actions under other multilateral environmental agreements (MEAs) have already incorporated discussions on adaptation and/or synergies with the climate change issue. One ongoing effort that

integrates the objectives of the three Rio Conventions is that of the national capacity self-assessments, which support the identification of capacity gaps and the formulation of national solutions to rectify these gaps.

9. International and intergovernmental organizations are increasingly undertaking work on climate change impacts, vulnerability and adaptation. Such organizations include: the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the World Bank, the Food and Agriculture Organization of the United Nations, the United Nations International Strategy for Disaster Reduction Secretariat, the United Nations Department of Economic and Social Affairs, the World Health Organization, the World Meteorological Organization (WMO), the Asian Development Bank (ADB), the World Conservation Union, the Organisation for Economic Co-operation and Development, the South Pacific Regional Environment Programme, and the International Federation of Red Cross and Red Crescent Societies.

10. The activities vary considerably in scope and magnitude; some focus entirely on the issues relating to vulnerability and adaptation, whereas others include these issues as a component of a broader effort. In terms of magnitude, some are programmes that include several major multi-country initiatives in various regions of the world; others, such as the Adaptation Policy Framework, the national communications support programme of the GEF (implemented by the UNDP and UNEP), and the World Bank project on mainstreaming adaptation to climate change in the Caribbean region, provide support for multiple countries. Apart from the funds provided by the GEF, most of the organizations have limited funds for adaptation in their core budgets.

11. International research programmes have made considerable contributions to the development of the science that is supporting adaptation by, for example, undertaking multi-scale analyses of climate impacts and economic costing of climate change, assessing impacts from abrupt and/or irreversible climate changes, studying and analysing adaptation strategies and their links to sustainable development. The WMO has presented a concept paper on its contribution to adaptation work.

12. During the twelfth session of the Conference of the Parties, the United Nations Secretary-General announced a UNDP–UNEP initiative that broadens the existing cooperation between the two organizations on climate change to help countries achieve sustainable development in the face of a changing climate. The partnership has two core objectives, namely to incorporate adaptation into national development plans and United Nations cooperation and frameworks, and to enable countries to access carbon finance and cleaner technologies to stimulate sustainable development. The UNDP will focus on capacity development and integrated policy design and implementation at the country level through its network of country offices, whereas UNEP concentrates on normative development, technical analysis, piloting of innovative approaches at all levels, and the provision of science-based guidance and knowledge services.

II. Elements for further consideration

A. Enhancing the assessment process

13. More accurate and frequent information on climate variability and the impacts of likely future climate change is needed. Most countries have undertaken vulnerability and adaptation assessments. Many of these followed an approach based on long-term future scenarios of climate change, whereas others followed an approach based on current vulnerabilities and seeks to expand the coping range of communities to enable them to respond to future climate change. Support for further enhancing the methodological basis of such assessments is still needed, in particular for integrating bottom-up and top-down approaches. In spite of remaining uncertainties associated with the modelling and assessment process, it is clear that the available information is sufficient to warrant the initiation of concrete action on adaptation.

B. Increasing adaptive capacity, particularly of the most vulnerable communities

14. Unlike natural systems which can only adapt reactively, human systems have the advantage of being able to undertake anticipatory adaptation in ways that can pre-emptively reduce the risks associated with climate change and increase adaptive capacity. For these reasons, among others, more rigorous assessment and prioritization of adaptation needs in all countries would help close the knowledge gap on the needs associated with adaptation.

15. Currently, most assessments provide general indications of adaptation needs without prioritization or specific project ideas, except in the case of the NAPA process. However, despite its success in identifying and ranking adaptation activities, participation in the NAPA process is currently limited to the LDCs, and only for their urgent and immediate adaptation needs. Completed NAPAs have identified food security and water resources as primary areas in need of adaptive intervention.

16. Enhanced international cooperative action to address climate change could provide new opportunities to enable communities to address changes in resource availability and accessibility, as well as in other determinants of vulnerability, through appropriate action that builds on their existing coping strategies and technologies, know-how and conventional wisdom.

C. Supporting mainstreaming adaptation into national planning and analysis of needs

17. It is understood that in most countries responses to the adverse effects of climate change must be implemented in the context of national sustainable development priorities, including poverty alleviation, national security, education, health, water resources and food security. A system of incentives may be needed to promote mainstreaming of adaptation concerns into national and sectoral planning. In many cases, the following steps are necessary components of any effective implementation strategy for adaptation, and need to be addressed in order to facilitate mainstreaming efforts at the national level:

(a) Enhancement of the scientific basis, methods and tools for the assessment of adaptation;

(b) Education, training and public awareness on adaptation;

(c) Individual and institutional capacity-building;

(d) Technology development and transfer;

(e) Awareness of, and support for, indigenous and endogenous coping strategies.

18. In order for the mainstreaming of adaptation to succeed at national level, governments will need to provide enabling environments to sectoral ministries and agencies and to ensure that development policies are formulated with due consideration of climate change. Furthermore, adaptation planning, including NAPAs, will require much sectoral inputs.

D. Future funding and other support paradigms

19. International support for adaptation in developing countries is now exclusively provided through voluntary funding, whether through bilateral or multilateral channels. However, much of this support is channelled towards reactive rather than anticipatory adaptation. The World Bank reported that it has paid out USD 38 billion to developing countries in the form of subsidies and loans for emergency aid in the last two decades. The ADB has similarly reported large payments for such purposes. Estimates of climate change impacts indicate that future adaptation needs will be much higher than that which current levels of voluntary funding can be expected to sustain.

20. The main challenges facing the implementation of adaptation in the future remain those of the sustainability, sufficiency and predictability of both national and international long-term support. There is also a need for more streamlined, innovative and transparent access to funding, and awareness of the

different requirements and modalities of the different sources. This is an area where many developing countries have indicated the need for capacity-building.

21. Additional channels of support to those currently available will be necessary. An example of an existing instrument relating to carbon finance is the current 2 per cent levy on the clean development mechanism, which feeds into the Adaptation Fund. There are currently no arrangements that offer incentives or credits for activities exclusively dedicated to adaptation to climate change or disincentives for maladaptation, in contrast to existing regulatory and fiscal incentives for mitigation. There is also little research on options for using market-based mechanisms to promote adaptation.

22. Similarly important, but yet to be fully utilized, additional channels of support include insurance, reinsurance and other risk-sharing mechanisms such as catastrophe bonds. Access to insurance varies greatly around the world. Insurance-based funding need not be based on traditional insurance, but could be developed through innovative hedging mechanisms and other financial instruments such as weather derivatives and index-based insurance, or through more widespread use of micro-insurance administered by local non-governmental organizations. Public–private partnerships could help augment the engagement of private insurance-related instruments into any future adaptation regime.

E. The role of technology

23. The prospect of long-term climate change is now drawing attention to the role of technology, and to the mechanisms that ensure its access to the sectors and communities that need it to adapt. Tolls for adaptation to climate change include traditional, modern, high technology and future technology, each of which may have an important role to play in meeting the adaptation challenge.

24. It has been argued that existing technologies that have proven to be effective in reducing vulnerability to weather-related hazards will also be important as technologies for adaptation to climate change. Hence, successful adaptation is possible, to some extent, by relying on existing technologies for coping with climate variability in addition to the development of new technologies. The policy implications of the development of new technologies via national and/or international mechanisms, and of facilitating the flow of such technologies for adaptation would need to be identified.

25. Recent climatic changes have made subsistence activities for local communities more difficult and unsustainable. Many communities are, however, effectively managing these changes. Through first hand experience of climatic conditions, and from communication with others, endogenous technology and local knowledge have evolved to take account of the changing climatic conditions. Changes in the physical environment are being managed by communities in conjunction with opportunities and challenges posed by social, cultural and economic changes.

F. Capacity development

26. Capacity development to support countries in meeting their adaptation needs and sustainable development goals is also key. This could include expanding programmes such as NAPAs to a broader group of countries, the creation of networks and communities of practice, and the dissemination and application of assessment tools at the country level. At the same time there needs to be an identification of whether any new institutional arrangements are needed to facilitate information exchange, planning, implementation and monitoring of adaptation.

27. Capacity-building could be implemented through the involvement of relevant United Nations bodies, international organizations and other stakeholders, in order to ensure coherent and integrated implementation. Examples include UNDP, through its network of field offices and its broad mandate to provide assistance at the country and regional levels, UNEP, the World Bank and regional commissions and development banks.

G. Experience sharing and regional collaboration

28. One element that has often been cited as having the potential to enhance adaptation efforts is the systematic sharing of information, knowledge and experience on adaptation. This could facilitate the identification of good practices and the potential for knowledge transfer across communities in ways that could enhance the efficiency of their resource allocation for adaptation. The Nairobi work programme on impacts, vulnerability and adaptation to climate change could serve as a catalyst towards such transfer of knowledge. In addition, such efforts could also help identify opportunities for regional collaboration in both the assessment of vulnerability and adaptation as well as in the implementation of concrete action to reduce vulnerability.

H. The need for a holistic, cross-cutting and integrated approach

29. Adaptation needs to be addressed through a holistic and cross-cutting set of actions, which take into consideration current climate variability as well as future climate change. These actions would by necessity be linked to national and sectoral policies and objectives, as well as environmental objectives of other MEAs such as the Convention on Biological Diversity, the United Nations Convention to Combat Desertification and Ramsar Convention (Convention on Wetlands of International Importance especially as Waterfowl Habitat). Any integrated future arrangement on adaptation therefore needs to take into account adaptation-related efforts under other MEA contexts, and define clearly the role of the UNFCCC process in catalysing appropriate action under such contexts. Similarly, regional collaboration – including South–South collaboration – is an important catalyst of national efforts, whether those relate to assessment or to the implementation of adaptive responses. This can be implemented in response to Article 4.1(e) of the Convention, which mandates all Parties to cooperate in preparing for adaptation to climate change.

30. Many adaptation activities provide multiple benefits towards a country's development objectives in addition to reducing climate change-related impacts. However, few efforts have been made to undertake socio-economic assessments, particularly due to the difficulty of quantifying intangible costs and benefits. The mandates under Article 4.1(b) of the Convention provide for the publication, by all Parties, of national or regional plans that include the implementation of adaptation activities. Such planning could be a good starting point for initiating country-driven action on adaptation, which may not need to depend on external support for its effective implementation, but could be undertaken with limited additional domestic resources. For effective implementation, more work is needed on how to undertake socio-economic assessment on different adaptation options.

I. Possible initial areas of adaptation action

31. Possible initial activities on adaptation could include appropriate legislation and regulatory frameworks which promote adaptive-friendly action, including, for example, those relating to demand-side management of water resources, or to instituting building codes that help in coping with extreme climatic events. Using climate change as a driver to undertake activities with multiple benefits can catalyse progress in achieving a country's sustainable development goals, while contributing to adaptation objectives.

32. Considerable development support is currently undertaken through bilateral channels, which can be further enhanced through the mainstreaming of adaptation concerns into official development assistance frameworks. Similarly, multilateral lending institutions are gradually becoming more aware of the need to incorporate adaptation concerns in ways that could discourage investments that exacerbate vulnerability and promote those that enhance adaptive capacity.

III. Summary

33. There are a number of issues relating to adaptation that need to be addressed in the context of developing an appropriate international response to climate change. The most salient of these include:

(a) Strengthening the methodological basis for the adaptation needs assessment process, for example, by expanding the scope of the NAPA process and the number of countries participating in it;

(b) Focusing on practical actions that would enhance current adaptive capacity with a view to responding to future impacts;

(c) Mainstreaming of adaptation both in national policy and in development support programmes;

(d) Building upon potential regional synergies and synergies with other developmental and environmental objectives;

(e) Instituting adequate and innovative arrangements for international support for adaptation, including for additional financial resources;

(f) Enhancing international cooperation on adaptation;

(g) Instituting functioning national systems to address adaptation.

34. A holistic approach which incorporates these elements is likely to lead to a successful international response to the adverse effects of climate change.

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