



UNITED
NATIONS



Framework Convention
on Climate Change

Distr.
GENERAL

FCCC/SBSTA/2007/10
20 September 2007

Original: ENGLISH

SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE

Twenty-seventh session

Bali, 3–11 December 2007

Item 3 of the provisional agenda

Nairobi work programme on impacts, vulnerability and adaptation to climate change

Synthesis of outputs of the work of the Least Developed Countries Expert Group, the Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention and the Expert Group on Technology Transfer, relevant to adaptation planning and practices

Note by the secretariat

Summary

This document synthesizes outputs relevant to adaptation planning and practices from the work of the Least Developed Countries Expert Group, the Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention, and the Expert Group on Technology Transfer. The document includes a summary of work by the expert groups relevant to experiences, lessons learned, constraints and barriers of past and current adaptation measures and actions; information sharing and enhancement of cooperation; understanding of response strategies; and ways and means to support adaptation. The document concludes with issues for further consideration, including areas identified by the three expert groups, in which they aim to contribute to adaptation planning and practices under the Nairobi work programme on impacts, vulnerability and adaptation to climate change.

CONTENTS

		<i>Paragraphs</i>	<i>Page</i>
I.	INTRODUCTION	1–6	3
	A. Mandate	1–2	3
	B. Scope of the note	3	3
	C. Background.....	4–6	3
II.	RELEVANT OUTPUTS FROM THE WORK OF THE EXPERT GROUPS	7–35	4
	Outputs from the expert groups relevant to adaptation planning and practices	11–35	5
III.	ISSUES FOR FOLLOW-UP AND FURTHER CONSIDERATION..	36–37	10

I. Introduction

A. Mandate

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA), at its twenty-fifth session,¹ requested the secretariat to prepare, by its twenty-seventh session, a synthesis report based on outputs relevant to adaptation planning and practices from the work of the Least Developed Countries Expert Group (LEG), the Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention (CGE) and the Expert Group on Technology Transfer (EGTT), as appropriate.

2. At the same session, the SBSTA requested the secretariat to prepare a synthesis report² of information submitted by Parties and relevant organizations³ on adaptation approaches, strategies, practices and technologies for adaptation at the regional, national and local levels in different sectors, as well as on experiences, needs and concerns.

B. Scope of the note

3. This document synthesizes outputs relevant to scientific, technical and socio-economic aspects of adaptation planning and practices under the Nairobi work programme on impacts, vulnerability and adaptation to climate change, from the work of the constituted bodies under the Convention, namely the LEG, the CGE and the EGTT. The information contained in this document, as well as the synthesis of information and views on adaptation planning and practices submitted by Parties and relevant organizations fed into the deliberations of the workshop on adaptation planning and practices, which took place in Rome, Italy, on 10–12 September 2007.⁴

C. Background

4. The overall objective of the Nairobi work programme is to assist all Parties, in particular developing countries, including the least developed countries and small island developing States, to improve their understanding and assessment of impacts, vulnerability and adaptation and to make informed decisions on practical adaptation actions and measures to respond to climate change on a sound scientific, technical and socio-economic basis, taking into account current and future climate change and variability.⁵

5. Activities in the area of adaptation planning and practices under the Nairobi work programme are undertaken in line with the stated objective in the annex to decision 2/CP.11 to advance sub-themes (b)(ii) “Collecting, analysing and disseminating information on past and current practical adaptation actions and measures, including adaptation projects, short- and long-term adaptation strategies, and local and indigenous knowledge” and (b)(iv) “Facilitating communication and cooperation among and between Parties and relevant organizations, business, civil society and decision makers, and other stakeholders”.

¹ FCCC/SBSTA/2006/11, paragraph 57.

² FCCC/SBSTA/2007/9.

³ Submissions from Parties and organizations are compiled in documents FCCC/SBSTA/2007/MISC.10 and FCCC/SBSTA/2007/MISC.11 and in an online database <http://maindb.unfccc.int/public/adaptation_planning>.

⁴ The workshop report is contained in document FCCC/SBSTA/2007/15.

⁵ Decision 2/CP.11, annex, paragraph 1.

6. Activities in the area of adaptation planning and practices can contribute to efforts by Parties and organizations, inter alia:

- (a) To exchange information on experiences, lessons learned, constraints and barriers of past and current adaptation measures and actions, and the implications for sustainable development;
- (b) To promote different ways and means for information sharing and for the enhancement of cooperation among Parties and relevant sectors, institutions and communities, including in the areas of disaster risk reduction and management;
- (c) To promote understanding of response strategies, including early warning systems and local coping strategies, and of lessons learned that can be applied elsewhere;
- (d) To assess ways and means to support adaptation, and address barriers and constraints to its implementation.

II. Relevant outputs from the work of the expert groups

7. Activities of and resulting outputs from the LEG, the CGE and the EGTT contribute to the efforts by Parties and organizations to collect, analyse and disseminate information and facilitate communication and cooperation.

8. Each expert group has its own mandate and activities. In accordance with Article 12, paragraph 7, of the Convention, which calls for the provision of technical and financial support to Parties not included in Annex I to the Convention (non-Annex I Parties) in preparing their national communications, the CGE was established at the fifth session of the Conference of the Parties (COP)⁶ with the objective of improving national communications from non-Annex I Parties by providing this technical advice and support. The mandate of the group was extended at COP 8⁷ to include activities relevant to enhancing adaptation planning and practices, such as examining adaptation issues in national communications of non-Annex I Parties, conducting regional hands-on training workshops on vulnerability and adaptation (V&A) assessments in the context of the preparation of national communications, and preparing relevant technical reports.

9. The objective of the LEG, established as part of the Marrakesh Accords at COP 7,⁸ is to provide technical guidance and advice to least developed countries (LDCs) on the preparation and on the implementation strategy of national adaptation programmes of action (NAPAs). NAPAs provide a process for LDCs to identify priority activities that respond to their urgent and immediate needs with regard to adaptation to climate change. Activities of the LEG of relevance for adaptation planning and practices include providing guidance, advice and technical support to Parties that are LDCs through regional and national training workshops, reviewing draft NAPAs and producing technical reports.

10. The EGTT, also established by the Marrakesh Accords at COP 7,⁹ aims to provide scientific and technical advice to facilitate and advance the development and transfer of environmentally friendly technologies under the Convention. Activities of the EGTT of relevance for adaptation planning and practices include enhancing the implementation of the technology transfer framework and its key themes of technology needs and needs assessments, technology information, enabling environments, capacity-

⁶ Decision 8/CP.5.

⁷ Decision 3/CP.8.

⁸ Decision 29/CP.7.

⁹ Decision 4/CP.7.

building, and mechanisms for technology transfer, as well as the work on the cross-cutting theme of technologies for adaptation to climate change. Relevant outputs of the EGTT include reports on workshops, technical papers and other documents, including brochures and guidebooks.

Outputs from the expert groups relevant to adaptation planning and practices

11. Each expert group makes a different contribution to adaptation planning and practices, in accordance with its mandated activities. The following section analyses how the outputs of the work from each expert group relate to the envisaged outcomes under adaptation planning and practices of the Nairobi work programme.

1. Information on experiences, lessons learned, constraints and barriers of past and current adaptation measures and actions, and the implications for sustainable development

12. All three expert groups have identified a number of experiences, lessons learned, constraints and barriers that generally fall into two categories: barriers associated with resource constraints and barriers relating to a lack of scientific and technical capacities and to socio-economic aspects. In accordance with the general objective of the Nairobi work programme, information presented in this document addresses issues relating to scientific, socio-economic and technical aspects of adaptation planning and practices.

13. In the background paper for its stocktaking meeting on the preparation and implementation of NAPAs,¹⁰ the LEG identified constraints and barriers to adaptation actions as part of NAPA implementation, including:

- (a) Limited integration of adaptation into a country's development national policy and planning cycle due to institutional, administrative and organizational barriers;
- (b) Lack of technical and institutional capacity to implement adaptation measures on the part of entities entrusted with the coordination and monitoring of the implementation of NAPAs.

14. As part of its mandated activities to examine national communications from non-Annex I Parties and to conduct hands-on training workshops on vulnerability and adaptation assessments, the CGE has identified the following gaps, constraints and barriers to adaptation measures:

- (a) In the area of effective integration of climate change into sustainable development:
 - (i) Lack of ability to incorporate climate change and other environmental issues into socio-economic and/or sectoral plans;
 - (ii) Lack of capacity to mainstream adaptation strategies into broader national development;
 - (iii) Lack of ability to formulate, analyse and implement integrated strategies and policies;
- (b) In the area of evaluation of costs and priorities of adaptation measures and strategies:
 - (i) Lack of availability of and access to data;
 - (ii) Lack of capacity and resources of research institutions;

¹⁰ <<http://unfccc.int/4055.php>>.

- (c) In the area of successful implementation of adaptation measures:
 - (i) Lack of in-depth knowledge to develop fundable adaptation projects;
 - (ii) Lack of sufficient technical support.

15. Activities by the EGTT in the area of support to technology needs assessments (TNAs) have resulted in a number of outputs relevant to experiences and lessons learned in adaptation planning and practices. The paper on good practices in conducting TNAs¹¹ and the synthesis report on TNAs¹² highlighted relevant experiences and lessons learned, as well as barriers to the implementation of identified adaptation technology needs, including:

- (a) The most frequently identified categories of barriers by Parties were economic and market barriers such as subsidies and tariffs, followed by information and awareness barriers such as lack of information on how well the technologies perform and the means to acquire technologies. Other barriers include policy-related barriers and barriers relating to human capacity;
- (b) Lessons learned include the identification of the need to develop an implementation plan to accommodate all adaptation technologies. Such an action will lead to the identification of more precise steps, barriers and capacity-building needs, as well as other activities such as awareness-raising and communication of information. In addition, an implementation plan needs to be integrated within existing national and international programmes for the plan to be effective.

2. Ways and means to share information and enhance cooperation among Parties and relevant sectors, institutions and communities

16. In order to share information among Parties, all three expert groups have synthesized the relevant national reports in collaboration with the secretariat. The LEG has synthesized the NAPAs, the CGE the national communications and the EGTT the TNAs.

17. As part of its stocktaking activities, the LEG examined 21 completed NAPAs that had been submitted officially by 31 July 2007. In terms of proposed adaptation measures, the majority so far are in the area of agriculture, forestry and fisheries, followed by water resources and disaster risk reduction activities related to extreme events. Adaptation measures in the agriculture, forestry and fisheries sector include developing resistant crop and livestock varieties, promoting diversification of activities for rural communities and advancing food security and afforestation projects. As regards water resources, adaptation measures include protecting the water supply infrastructure, water harvesting, improving watershed management and slowing down the salinization of water caused by sea level rise.

18. Adaptation actions in the area of disaster risk reduction and preparedness for extreme events include installing early warning systems, taking measures for flood prevention (e.g. constructing flood dykes) and coping with droughts, as well as strengthening community disaster preparedness and response capacity. In terms of measures to protect coastal zones, actions include enhancing integrated coastal zones management, constructing and upgrading coastal defences and causeways, and mangrove planting. Adaptation measures in the health sector include developing health infrastructure, increasing immunization against common diseases, and taking various measures to combat the spread of malaria (e.g. by disseminating bed nets), as well as training of and raising awareness among medical personnel.

¹¹ <<http://ttclear.unfccc.int/ttclear/pdf/Workshops/Bangkok/Paper.pdf>>.

¹² FCCC/SBSTA/2006/INF.1.

19. The CGE has examined all initial national communications submitted by non-Annex I Parties to the secretariat up to 30 May 2007.¹³ The review of 134 initial national communications covered the following issues of relevance for adaptation planning and practices: sustainable development and the integration of climate change concerns into medium- and long-term planning and climate change impacts, adaptation measures and response strategies. Many institutional and governmental initiatives have been undertaken by non-Annex I Parties for better integration, coordination and implementation of climate change activities at national and local levels. Many Parties have developed national action plans for climate change, which serve as the frameworks for national planning and capacity-building efforts by government agencies and across other sectors.

20. In terms of possible adaptation options, most Parties presented a list of options without evaluating, prioritizing and/or costing them, while some used statistical methods and screening matrices to assess selected options. A number of anticipatory and reactive adaptation measures have been identified in key sectors. Most of these measures relate to crop management, land management and soil and water conservation in the agriculture and food security sector; supply-side and demand-side management of water resources; conservation and management of forests and other terrestrial ecosystems; land-use planning and zoning and integrated coastal zone management; and improvements in living standards, surveillance, monitoring and early warning systems for outbreaks of vector-borne diseases that threaten human health.

21. The EGTT has shared information from 23 completed TNAs through a synthesis report on technology needs identified by non-Annex I Parties.¹⁴ The report provides an overview of prioritized needs for technologies for adaptation as identified by Parties. The most commonly targeted adaptation sectors were agriculture and fisheries, followed by coastal zones, water resources and human health. Examples of areas where technologies for adaptation are needed include crop management, efficient irrigation, land management and improved livestock husbandry.

22. Besides syntheses of national reports, the expert groups use websites and online portals to share information with Parties. In collaboration with the UNFCCC secretariat, the LEG created an e-mail address¹⁵ through which LDC Parties can send their requests for assistance to the LEG, and a website has been established with low bandwidth to allow easy access. The LEG also provided input to the NAPA platform¹⁶ developed by the United Nations Institute for Training and Research, which is available in both French and English and that provides an opportunity for dialogue between all actors involved in the NAPA process.

23. Information on CGE outputs is shared on the UNFCCC CGE website,¹⁷ which includes access to training materials and technical documents as well as reports of CGE workshops and meetings. The EGTT contributed to the UNFCCC technology information clearing house TT:CLEAR,¹⁸ which acts as a gateway to information on technology transfer projects and programmes, case studies of successful technology transfer, environmentally sound technologies and sources of know-how and information on relevant organizations and experts.

24. With regard to enhancing the sharing of information among Parties and institutions, the CGE has provided technical advice on ways to improve the reporting of projects identified in national

¹³ FCCC/SBI/2002/15, FCCC/SBI/2006/4 and FCCC/SBI/2007/20.

¹⁴ FCCC/SBSTA/2006/INF.1.

¹⁵ <leghelp@unfccc.int>.

¹⁶ <<http://www.napa-pana.org>>.

¹⁷ <<http://unfccc.int/2608.php>>.

¹⁸ <<http://ttclear.unfccc.int>>.

communications¹⁹ and on a template to report on cross-cutting themes in national communications.²⁰ In the document on ways to improve reporting of projects, the CGE examines what types of information are required by potential funders in order to make a decision on a project; addresses what types of information are generally provided in national communications from non-Annex I Parties; and examines what principal improvements can be made to meet the information needs of funders in the public, private or carbon finance sectors. With regard to the reporting template on cross-cutting themes, the reported information of particular relevance for adaptation practices and planning covers the steps taken by non-Annex I Parties to integrate climate change considerations into relevant social, economic and environmental policies and actions and networking.

25. In terms of enhancing cooperation between Parties, institutions and communities, including in the areas of disaster risk reduction and management, the LEG produced technical papers on regional synergies²¹ and synergies between multilateral environmental agreements (MEAs)²² in the context of NAPAs. In the technical paper on regional synergies the LEG recognizes opportunities that arise from undertaking adaptation measures at the regional level, for example through cost and information sharing in capacity-building activities, early warning systems and measures for disaster risk reduction.

26. The LEG highlighted insurance as one form of adaptation that is best implemented at a regional level, since a regional scheme could serve to spread the risk, increase the pool of contributors and reduce the cost of administration. In the technical paper on synergies between MEAs, the LEG emphasizes that close cooperation among national MEA focal points is paramount, especially with regard to the implementation of adaptation-related actions plans, including NAPAs under the Convention, national action programmes under the United Nations Convention to Combat Desertification and national biodiversity strategies and action plans under the Convention on Biological Diversity.

3. Understanding response strategies, including early warning systems and local coping strategies, and lessons learned that can be applied elsewhere

27. Acknowledging the value of community-based response strategies, the LEG, in collaboration with the UNFCCC secretariat, developed a database of local coping strategies.²³ This database supports the identification of time-tested adaptation options among countries, including LDCs, which share similar climatic conditions. The database can be searched by climate hazard, impact or coping strategy and offers adaptation actions, including in the area of community-based early warning systems. To facilitate understanding of the coping strategies, each case study of an adaptation action provides details on resource requirements, non-climate benefits and potential maladaptation.

28. With regard to understanding technological response strategies, the EGTT contributed to a technical paper on the application of environmentally sound technologies for adaptation to climate change.²⁴ The paper and an accompanying brochure²⁵ provide a comprehensive overview of a framework for assessing technologies for adaptation to climate change, the process of technology development and transfer as relevant to adaptation, and examples of important technologies for adaptation in five sectors (coastal zones, water resources, agriculture, public health and infrastructure).

29. To enhance understanding of the possible sectoral technologies for adaptation, the paper highlights a number of case studies; each reviews the need for the technology, the mechanism used in

¹⁹ FCCC/SBI/2007/7.

²⁰ FCCC/SBI/2007/3.

²¹ FCCC/TP/2005/4.

²² FCCC/TP/2005/3.

²³ <<http://maindb.unfccc.int/public/adaptation>>.

²⁴ FCCC/TP/2006/2.

²⁵ <http://unfccc.int/resource/docs/publications/tech_for_adaptation_06.pdf>.

transferring the technology, barriers for further implementation, the degree of stakeholder engagement, and results and lessons learned. With regard to early warning systems and local coping strategies, examples of case studies include storm surge early warning, heat event early warning systems, water harvesting in North Darfur state, Sudan, and floating agriculture in the flood-prone areas of Bangladesh.

4. Ways and means to support adaptation and address barriers and constraints to its implementation

30. All three expert groups have developed a number of outputs aimed at assessing ways and means to support adaptation and addressing barriers and constraints to its implementation.

31. In its annotated guidelines for the preparation of NAPAs,²⁶ the LEG provides guidance on the process of preparation of NAPAs, elaborates on the selection and prioritization of adaptation options and addresses constraints relating to the integration of NAPAs into national development policies and plans. To complement this, one global workshop and four regional workshops were conducted to build in-country capacity for NAPA preparation and implementation. As an output, the LEG, in cooperation with UNITAR, prepared a document titled "Selection of examples and exercises drawing from regional NAPA workshops".²⁷ Likewise, the NAPA primer²⁸ provides guidance on NAPA preparation and elaborates how to overcome constraints relating to the NAPA preparation process. Finally, the LEG produced a technical paper with elements for implementation strategies for NAPAs.²⁹ The paper includes an assessment of ways and means to support adaptation measures as part of a funding strategy and an institutional framework for implementation.

32. As part of its support for V&A assessments, the CGE has developed a training package to support adaptation planning and integration into sustainable development. The package focuses on key vulnerable sectors including agriculture, coastal zones, water and health. The CGE has provided training opportunities for non-Annex I Parties: it organized three regional hands-on training workshops³⁰ that included components to familiarize experts with V&A assessments and with supporting adaptation planning.

33. The CGE has developed a cost-effective and comprehensive training strategy to support the preparation of national communications.³¹ The strategy includes an analysis of current training programmes, needs and priorities identified by Parties and available resources for support. The CGE emphasized the need, identified through surveys among Parties, to take a broader view of the national communications training process. National communications training can be seen as an integral part of capacity-building that will lead to the development of practitioners who will facilitate the implementation of concrete adaptation measures. The CGE further proposed that integration of climate concerns into national development plans, which includes policy formulation and planning, should become a new element of the comprehensive training strategy.

34. The EGTT has implemented a number of activities aimed at improving access to financing for adaptation technology transfer projects from a variety of available sources, and has produced a number of

²⁶ <http://unfccc.int/files/cooperation_and_support/ldc/application/pdf/annguide.pdf>.

²⁷ <<http://www.napa-pana.org/files/NAPA-Examples%20and%20Exercises-EN.pdf>>.

²⁸ <http://unfccc.int/files/cooperation_and_support/ldc/application/x-zip-compressed/napaprimerdec_2004.zip>.

²⁹ FCCC/TP/2005/5.

³⁰ Workshops included one for the Africa region (18 to 22 April 2005 in Maputo, Mozambique), one for the Asia and Pacific region (20 to 24 March 2006 in Jakarta, Indonesia) and one for the Latin America and the Caribbean region (14 to 18 August 2006 in Asuncion, Paraguay).

³¹ FCCC/SBI/2007/6.

outputs, including a technical paper³² and a brochure on innovative financing.³³ A guidebook on preparing technology transfer projects for financing (practitioners' guide)³⁴ was published to provide assistance to project developers in developing countries in converting ideas and concepts into project proposals that will meet the standards of international financial providers.

35. A hands-on training session on preparing project proposals was also organized as a pilot for possible training and coaching programmes in the future. This training session identified the need for establishing a concrete programme for the dissemination and use of the practitioners' guide. The EGTT recommended that this plan be based on the following building blocks:

- (a) Learning centre events in conjunction with the sessions of the subsidiary bodies;
- (b) Regional training sessions and offering hands-on training courses and assistance;
- (c) A help desk facility to assist trainers and project developers;
- (d) A project finance facility to provide a forum for project developers to present their proposals to finance practitioners.

III. Issues for follow-up and further consideration

36. Activities of the three expert groups have resulted in outputs, which are relevant and could be useful in fulfilling the objective of adaptation planning and practices under the Nairobi work programme. During a meeting at the twenty-sixth session of the SBSTA, the Chairs of the LEG, the CGE and the EGTT agreed to provide a strong input to the Nairobi work programme. The three expert groups in their respective meetings have identified the following areas of contribution:

- (a) The LEG identified a range of adaptation actions, measures and strategies to address the adverse impacts of climate change contained in submitted NAPAs. With this information, the group believes it can make a valuable contribution to the Nairobi work programme. As more and more NAPAs are completed, the LEG will expand its role in providing advice on strategies for implementing NAPAs, which could also be of relevance for adaptation planning and practices. During the NAPA implementation phase, the LEG could have the additional role of providing advice on technical aspects of adaptation projects;
- (b) The CGE, in identifying its future role in improving the preparation of national communications, determined that it can contribute to achieving the goals of the Nairobi work programme through technical advice to the Subsidiary Body for Implementation on methodologies, tools and processes relating to the conduct of vulnerability and adaptation assessments;
- (c) The EGTT discussed possible activities in response to the Nairobi work programme and indicated that such activities should build on the work already undertaken by the EGTT in this area, including the outcomes of the seminar³⁵ on the development and transfer of environmentally sound technologies for adaptation to climate change and the technical

³² FCCC/TP/2006/1.

³³ <http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/innovation_en_070523.pdf>.

³⁴ <<http://ttclear.unfccc.int/ttclear/html/IfPG.html>>.

³⁵ The seminar was held on 14–16 June 2005, in Tobago, Trinidad and Tobago. The report is contained in document FCCC/SBSTA/2005/8.

paper on technologies for adaptation to climate change. As the submissions from Parties and organizations on technologies for adaptation provide additional guidance on possible action which could be undertaken by the EGTT in the future, the group agreed to consider possible activities in response to the Nairobi work programme at its twelfth meeting in December in Bali, taking into account the synthesis report on technologies for adaptation identified in the submissions from Parties and relevant organizations.³⁶

37. Issues for further consideration may include:
- (a) Ways and means to further align the outputs from the expert groups to the objectives and expected outcomes of the Nairobi work programme, as appropriate;
 - (b) Ways and means to disseminate deliverables of the Nairobi work programme for consideration by the expert groups;
 - (c) Ways and means to contribute to the work of the three expert groups in the area of adaptation planning and practices.

³⁶ FCCC/SBSTA/2007/6.